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Kansas State Agricultural College

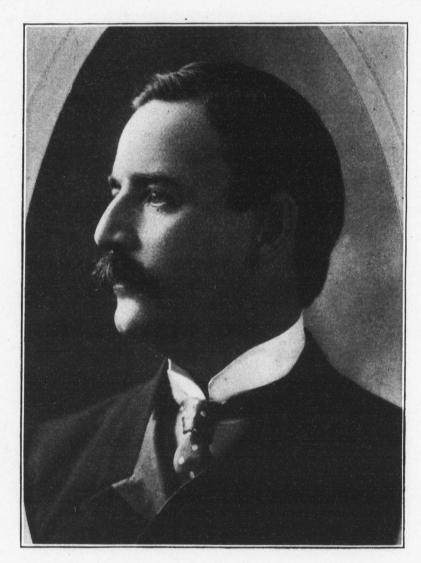
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KANSAS STATE HISTORICAL SOCIETY

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Pres. H. J. Waters.

THE INDUSTRIALIST

Vol. 36.

MANHATTAN, KAN., OCTOBER 2, 1909.

No. 1

The New President.

Dr. J. D. Walters, Professor of Architecture and Drawing.

The vacancy in the executive chair of the Kansas State Agricultural College, caused by the resignation of Pres. E. R. Nichols, has recently been filled by the election of Dean H. J. Waters, of the agricultural department of the Missouri State University, and as this is the first number of the Industrialist issued since the July Board meeting it seems proper that the College paper should say a few words of the new man that will pilot the institution through the calms and squalls and storms of the future. The biographical notes published here are largely excerpts from articles published during the summer by high-grade dailies and magazines, such as the Topeka Capital, the Manhattan Mercury, the Orange Judd Farmer, the Oklahoma Farm Journal, the Breeders' Gazette, and the Missouri Agricultural College Farmer.

President elect Henry J. Waters is a man of national reputation. He was connected with the Missouri school at Columbia fourteen years, and has made it what it is. He began his work there with almost no foundation for an agricultural college and in a little over a decade made it one of the strongest institutions of the country. Because of his excellent work he was offered the position of chief executive by several agricultural colleges, but he steadfastly refused to leave his work at Columbia. However, last spring the Kansas State Agricultural College offered him such a promising field for work that after much hesitation he decided to accept the call and come to Manhattan.

Professor Waters had the strongest possible recommendations for the place. He was endorsed by Secretary of Agriculture Wilson and by many others who are acquainted with his work. Congressman Charles F. Scott was asked by the Board of Regents to make inquiry at Washington for a strong man for the place. He conferred with Secretary Wilson and others of the Agricultural Department, who recommended five well-known college men. On the list of recommendations sent by Congressman Scott, Dean

Waters was first choice, and Mr. Scott said in his letter: "They seem to regard Mr. Waters as the most desirable man in the United States for the presidency of the Kansas College, and recommend him strongly."

SOME OF HIS ENDORSEMENTS.

Dr. John R. Kirk, president of the Missouri State Normal school, wrote to the Board of Regents: "From observation and the opinions of men well fitted to judge whom I have met in the past dozen years, I regard Dean Waters as one of the most capable men at the head of an agricultural college to be found in the United States. He has taken personal pride in working out some of the greatest problems in stock breeding and stock raising, along with many other great problems appertaining to the reorganization of the industries of our country. He is a man of broad, general education, first-class administrative ability as regards the organization of the great forces comprising a college of agriculture. He is a steady, well-balanced man, inclined to think well before he acts, by habit given to clean-cut analysis of things. He has the characteristics of a business man of the highest type.

"I do not know that he would care to be President of your College. He is probably immersed in the working out of great problems on the farm and in the farms and laboratories at Columbia, problems that require a series of years to work out; but if he would say that he wants a position such as your presidency, and that he would take interest in administrative duties of the sort required in such a position, I would have no hesitancy in endorsing him strongly for the position. It would be a mere matter of his personal inclination. He is the kind of man that never undertakes a thing with the intention of doing it by halves. He has succeeded in an extraordinary way in what he has heretofore undertaken."

Dr. Walter Williams, dean of the department of journalism of the Missouri University, associated with Mr. Waters several years, said of him: "I would regret exceedingly to have Dean Waters leave Missouri. He has done a great work in connection with the agricultural college here. I do not think for your College, however, you could find a man more capable than he is. He is a strong administrator of large reputation and worth, yet with all thoroughly practical and sane."

HIS LIFE AND WORK.

Pres. Henry J. Waters was born and reared on a stock farm in northeast Missouri. His father was a breeder of Shorthorn cattle, Shropshire sheep, and an extensive mule feeder, and for

twenty years before his death was a prominent writer on agricultural subjects and institute lecturer in Missouri and adjoining Dean Waters was graduated in agriculture at the University of Missouri in 1886, did graduate work in agricultural chemistry, and was assistant secretary of the Missouri State Board of Agriculture from 1886 to 1888, having edited the bulletins and annual reports for that board for those years. He was then made assistant in agriculture to the Missouri Experiment Station, which position he held for two years, being in charge of the experimental work in crops and livestock. He was then elected professor of agriculture in the Pennsylvania State College and agriculturist to the Pennsylvania Experiment Station, the first man in agriculture to be called from the West to an eastern insti-In the fall of 1895 he was recalled to Missouri as dean of the college of agriculture and director of the experiment station, which position he has since held.

During the world's fair at St. Louis Dean Waters was pressed into service to collect and make the exhibit in agriculture for the state, which was the largest and most striking display of agricultural production and resources thus far made at any exposition in this country. At the close of the exposition he was granted leave of absence for a year and a half to study in Europe, the time being spent in studying nutrition in the great universities of Leipzig and Zurich.

Professor Waters was instructor in nutrition at the graduate school of agriculture, University of Ohio, 1903; he was likewise instructor in the graduate school of agriculture, University of Illinois, 1906. His chief emphasis was along animal husbandry lines, with especial stress on nutrition and meat production, particularly the production of beef. While professor of agriculture in the Pennsylvania State College he emphasized scientific methods of feeding dairy animals and the production of milk.

His position as dean of the college of agriculture also made him a member of the state board of agriculture, and all this time he was a member of the executive committee, and for a time the president of the board.

When Professor Waters went to Missouri the college was not in touch with the farmers of the state and had just been through a long struggle for separation from the university. Every agricultural organization in the state had passed resolutions unfriendly to the college. No state appropriation, with the exception of a minor one, years before, had been granted the college. Since that time the number of students in agriculture has increased in

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a larger proportion than in any other department of the university. Practically all of the buildings that have been given to the university by the legislature since Mr. Waters has been connected with the college have been given to the college of agriculture. With the exception of the dairy barn, every building now owned by the college of agriculture has been built since he took charge of affairs in the fall of 1895.

A short time after Professor Waters returned from Europe he was elected dean of the college of agriculture and director of the experiment station at the University of California, at a very attractive salary, but, on account of a contract with his own institution which would not be released, he remained in Missouri. Last spring he was elected president of the Colorado Agricultural College, but did not accept.

HIS WORK AT COLUMBIA.

During the past twelve or fourteen years the Missouri station, under his direction, has conducted elaborate feeding experiments with cattle and hogs, covering practically every phase of growing, wintering and fattening these classes of live stock. In addition to this he has made a survey of the methods and underlying principles employed by feeders in the Mississippi valley in fattening cattle for the market, publishing as the result of his studies practically a handbook on this subject, which is now being used as a text-book in essentially all of the agricultural colleges of the country.

In the last few years, under the Adams fund, Professor Waters has undertaken a piece of fundamental research into how a beef animal grows, what factors favor and what factors hinder this process. This experiment involves daily feed records, the chemical analysis of the carcasses of these animals at different stages of development, and a careful study at the same time of the changes that take place in the size of the muscular fibers as the animals grow or fatten, etc. Already sixteen animals have been analyzed, a larger number than has been analyzed elsewhere in the history of the world, and it is the first time that animals with a definite history have been put to this crucial test. These researches have attracted attention among the scientists of Europe as well as of America. Zuntz, professor of physiology in the Royal Agricultural College of Berlin, when visiting America last year, traveled half way across the continent to see this experiment and study its plan; Dr. Hoffman Bang, director of the Royal Experiment Station of Copenhagen, Denmark, made a similar trip, from Washington to Columbia, to

study the methods here employed. The world has spent much time and money in studying in detail the life history of animals of little economic importance, like the lower forms of marine animals, etc., but this is the first time that an attempt has been made in detail to work out the life history of a domestic animal.

While these investigations are fundamental and in many respects very technical, at the same time many practical lessons are being learned from them as they progress. For example, the matter of the handling qualities of cattle, upon what it is based, what causes "patchiness," lack of smoothness in show cattle, etc., the very basis of judging stock in the show ring, and the foundation of the teaching of stock judging, all, have been practically worked out and reduced to a scientific basis.

The question of whether the form of the animal, its shape and type, is influenced by the way it is not fed during its formative period is likewise being definitely determined. In short, by these researches, if they are carried to a final conclusion, it is expected that the part the breeder plays in determining the size, temperament, type and functional activity of the animal will be separated from the part the feeder plays. In other words, for the first time, the influence of nutrition and environment will be separated from the role which heredity plays, and we shall then have our animal production upon a thoroughly rational basis.

Mr. Waters is married, is a member of the Episcopal church, and is 43 years of age.

DEAN WATERS GOES TO KANSAS.

The following item from the August, 1909, number of the *Missouri Agricultural College Farmer*, published by the students of the agricultural college, testifies to the high esteem in which Pres. H. J. Waters was held in that progressive institution:

"Dean H. J. Waters has resigned his position here to accept the presidency of the Kansas Agricultural College. Truly, this is the greatest loss the university has met with in years.

"There are many reasons why we hate to see Dean Waters go. In the first place, he has been with the university since its beginning and has done more than any other man to place the agricultural department on its present high plane. Dean Waters is just in the prime of life now and it is only reasonable to expect that his fine work of the past will be followed by still better work in the future. Perhaps no man in the university was so well or so favorably known throughout the state.

"In almost any line of agriculture he was equally well informed,

and no department felt that he favored another, but all knew that his every wish was for the development of all the state's resources.

"To the students he was an advisor and friend, and no one ever went into his office for help that did not come away feeling encouraged and cheered. However we may feel about the dean's leaving, we cannot blame him in the least. As a state, it is time we were examining ourselves to see why we can not retain the best men in America. Why is it that other states no richer or more blessed by nature than Missouri can offer more advantages both financially and otherwise and take our best men from us?

"Every Missourian owes a debt to Dean Waters that can never be paid, and he leaves with the best wishes of all."

A TESTIMONIAL FROM OKLAHOMA.

The Oklahoma Farm Journal, of August 1, speaks of the action of our Board with regard to the election of Pres. H. J. Waters in the following positive manner: "The Board of Regents of the Kansas State Agricultural College has induced Dean H. J. Waters, of the University of Missouri, to become President of the institution at Manhattan. That is the best job any Board of Regents ever did for that College. Dean Waters is just the type of man needed to make the Kansas State Agricultural College, not only in name but in fact, the greatest institution of the kind in the United States. He possesses, in an unusual degree, knowledge of what such an institution should be and of how to make it so. His work in Missouri during the last fourteen years has furnished an illustration of what industry and sense, combined with the right sort of education and experience, will do when applied to the management of an agricultural college and experiment station."

Washington Marlatt Dead.

The Industrialist is pained to announce the death, from old age, last Monday, of one of the pioneer neighbors of the College, Mr. Washington Marlatt, A. M., one of the sturdy founders of Bluemont Central College and a very prominent figure in the early history of Manhattan. From a sketch of his life published by the Manhattan *Republic* we excerpt the following biographical notes:

Washington Marlatt was born June 28, 1829, in Wayne county, Indiana, the son of Thomas and Elizabeth Bellar Marlatt, natives of Berkeley county, Virginia.

Here Marlatt was reared on a farm. At 18 he left home for Asbury University and graduated in 1853 with the degree of B. A.

In 1856 the degree of M. A. was conferred upon him and he was licensed to preach. After graduation Mr. Marlatt taught school at Greensburg, Ind. In the spring of 1854 he returned home to farm. Two years later, in the spring of 1856, he went to Kansas territory, arriving in Leavenworth on May 2, and went directly to Manhattan. He first bought a claim south of the Kansas river about four miles south of town, where he lived a year and a half. In 1858 he purchased, for \$1200 from a settler named Wilson, the home place, where he spent the remaining half century of his life. He became in time one of the wealthiest farmers of this section, and his holdings are now exceedingly valuable.

Mr. Marlatt was one of the early promoters of the Bluemont College, the predecessor of the present great State Agricultural College, and he gave both time and money to help the College association get the project on its feet. When the Bluemont College building was finally completed, the school was opened in the fall of 1859 with about thirty students, and Washington Marlatt as principal. Miss Julia Bailey, of New London, Conn., was his assistant, and a wedding on April 2, 1861, made this a life-long relationship. During these early years Mr. Marlatt was also a circuit rider in the Methodist church. He was present at the first conference of the church at Lawrence in 1856. His salary as circuit rider was \$100 per year.

He was also one of the charter members of the local Masonic lodge, and a member of the I. O. O. F. and the Patrons of Husbandry during the early years. He was early a republican, and attended the first Free State convention in 1857, when Mark Parrott was nominated to Congress.

In 1866 Mr. Marlatt went back to his farm, and for the rest of his life devoted himself to agriculture. He was a frequent contributor to the local and farm papers on various agricultural topics. He also wrote a series of sketches, "Ten Years on the Frontier," which he at one time intended publishing in book form; and he was actively engaged in farming and fruit raising until a very few years ago. Even last year he looked after the details of his work.

To Mr. and Mrs. Marlatt were born five children. The oldest, Willie B., died at an early age. The other four are living, and three of them are graduates of the College. Fred A. and Mary are residents of Manhattan. Chas. L. Marlatt lives in Washington, D. C., and is in charge of the entomological field work for the government. Miss Abby L. Marlatt is teacher of domestic economy in Providence, R. I.

Washington Marlatt lived a full four score of years, crowded with work, abounding in usefulness. He won wealth and fame, kept the faith, and died in peace in the midst of his family. His was a worthy and complete life.

Farmers' Institute Schedule.

The Farmers' Institute work is to begin this year on October 1, and there will then be three or four circuits out all the time until Christmas. The first meetings are in the main local institutes, with one-day or two-day sessions. The institutes now dated are as follows:

Southeastern Circuit.—Hiattville, Oct. 1; Walnut, Oct. 2; Savonburg, Oct. 4; Kincaid, Oct. 5 and 6; Louisburg, Oct. 7; Cadmus, Oct. 8; Farlinville, Oct. 9; Iola, Oct. 11 and 12; Colony, Oct. 13; Waverly, Oct. 14; speakers, Mr. Crabtree and Miss Brown.

East Central Circuit.—Michigan Valley, Oct. 6; Quenemo, Oct. 7; Olivet, Oct. 8; Hartford, Oct. 9; LeRoy, Oct. 11; Westphalia, Oct. 12; Greeley, Oct. 13; Rantoul, Oct. 14; Williamsburg, Oct. 15; speakers, Mr. Hinman and Mr. Holsinger.

North Central Circuit.—Morganville, Oct. 6; Greenleaf, Oct. 7; Marysville, Oct. 8; Hanover, Oct. 9; Haddam, Oct. 11; Scandia, Oct. 12; Wayne, Oct. 13; Clyde, Oct. 14; Wakefield, Oct. 15 and 16; speakers, Mr. Wheeler and Mr. Gearhart. President Waters and Mrs. Van Zile will also be at Wakefield.

The Manhattan Street-car Company reports a fair business for their line from the U. P. depot to the College for the summer. It is now working on a second line connecting the two railroad depots and extending up Fourth street past the Gillett Hotel and the State Bank to Fremont street, and from there to the Manhattan Athletic Park and up Vattier street to the main entrance of the College. It is hoped that the line to the Athletic Park will be finished by October 16, the date of the K. U.-K. S. A. C. football game.

Circular No. 3, on "Seed Wheat," by the Agronomy Department, is just out. Several copies of circular No. 2, on "Seed-bed Preparation of Wheat," which was issued several weeks ago, are still available, and those wishing copies should apply to the Agronomy Department. No. 2 is a report of experiments in preparing ground for wheat and contains suggestions on preparing the ground. No. 3 is a report of this year's work.

Local Notes.

Prof. J. T. Willard met with the State Board of Health, last Tuesday afternoon, at Topeka.

Professor Kinzer left for Seattle, Wash., a few days ago to act as official judge of live stock at the great fair.

Professors Dickens, Van Zile, Wheeler, Kinzer and Assistant Dow acted as judges at the Hutchinson State Fair.

Prof. and Mrs. J. T. Willard entertained the deans of the College, last Monday evening, to meet President and Mrs. Waters.

Pres. H. J. Waters addressed the farmers of Riley and Pottawatomie counties at the Manhattan fair on Grange day last week.

Good for Kansas. There are nearly eighteen hundred students present to-day—a gain of about two hundred over last fall term.

Prof. J. D. Walters gave an address at the September meeting of the Manhattan Grange on "Agriculture in Switzerland as I Saw it Last Summer."

Mrs. Van Zile and Miss Ella Weeks have rented the cottage at 1011 Osage street. Miss Elizabeth Putnam will make her home there for the winter.

To-day, Saturday, the Agricultural College will meet Salina Wesleyan College in the Manhattan Athletic Park. We saw the College team at work one afternoon this week and predict a glorious victory.

Superintendent Wetzig announces that the Riley County Educational Association will hold two general meetings this year, one in October and one in February. These will be supplemented by "district meetings."

Secretary Butterfield reports that up to Thursday evening 1737 students had paid their incidental fee for the fall term. The indications are that we will reach the 2500 mark during the present year. A complete list by classes will be published next week.

Prof. Theo. Scheffer has just returned from a three-weeks' trip through western Kansas. The trip was for the inspection of prairie-dog districts. From Oakley to Wallace, from Healy to Tribune and from Syracuse to Great Bend the trip was taken in a buggy.

Assistants Crabtree, Wheeler and Miss Brown, of the Farmers' Institute Department, are at Fleming's Grove, near Stockdale, to-day, where they will each deliver addresses. The occasion is the annual farmers' institute, which has grown to be a young county fair. Besides the institute features there are exhibits of various kinds, such as are found at any ordinary county fair. Substantial prizes are offered to the winners. Nor are the other indispensable accessories to a fair lacking, such as lemonade stand, doll racks, shooting galleries, and other similar forms of entertainment.—Nationalist.

The Agronomy Department has sold all of the seed wheat grown at the College, but has the names of 125 growers who have College-bred seed wheat for sale and will send a list upon application. Professor Ten Eyck states that they have received an average of twenty-five business letters a day.

Prof. R. J. Kinzer has been much in demand this fall to act as stock judge at the great fairs all over the West. Assistant King and a number of his students who intend to take part in the Chicago and Kansas City stock-judging contests went with him for practice to the Hutchinson State Fair and to St. Joseph, Mo. Those who were there were W. L. Blizzard, A. J. Ostlund, O. E. Giger, Harlan Deaver, H. F. Wood, L. C. Aicher, Roy Masheter, T. L. Barnes, and T. E. Clarke.

The football schedule for the fall term consists of nine games, of which five are to be played on the local grounds. The following are the games to be played here: Kansas Wesleyan University, October 2; Kansas State University, October 16; Southwestern, October, 23; Creighton University, November 6; and the Oklahoma Aggies, November 13. The games played elsewhere are Missouri State University at Columbia, October 9; Kansas State Normal at Emporia, October 30; Fairmount College at Wichita, November 20; and Washburn at Topeka, November 25. Prospects are good for a very successful season.

The opening exercises of the fall term were held Thursday afternoon of last week. This being Pres. H. J. Waters' first appearance on the platform, it was thought appropriate to arrange something of a program for the occasion. The conventional exercises, consisting of music, reading, and prayer, were followed by a short address by the President, a song by Professor Valley, and a short talk by Doctor Walters. The President spoke informally and addressed himself chiefly to the students, whom he encouraged to work hard and to be sincere and loyal. He said that class-room knowledge was not the only thing to be sought in a college, but also strength of character, purity of thought, and correctness of habit. He urged the keeping up of the religious side of the personal life, advised regular attendance at the city churches, and asked all to make the teachers of the College personal friends and confidants. The students responded with hearty cheers. Doctor Walters spoke of the past and present condition of the institution and predicted that the ensuing decade would be the most prosperous in its history. He stated that he had visited a dozen higher institutions of learning in Europe last summer and that not a single one of them could point to a growth at all comparable to that of the Kansas State Agricultural College. He ascribed the momentum of the institution to the loyalty and hard work of the officers and teachers of the past and reminded the audience that those who now enjoy the privileges of the great school owe a debt to those who built it. The program of the exercises closed with the College hymn and a rousing College yell given by two thousand robust young Kansans.

The students' live stock judging contest this year will be the third event of the kind at the American Royal Stock Show at Kansas City (October 11). Any student of any agricultural college, or farmer's son under 25 years of age, may enter. Ten prizes, aggregating \$200, are offered for individual judging, and the Kansas City Stock Yards Cup is competed for by teams from colleges. This cup was won first by the Ames, Ia., school, and last year by K. S. A. C. The cash money both years was awarded to both students and farmers' sons. W. L. Nelson, Columbia, Mo., assistant secretary of the state board of agriculture, is superintendent of the judging contests.

Prof. J. C. Kendall, of the Dairy Department, spent his summer vacation month in the East looking up dairy stock for his department. He visited herds in New York, Pennsylvania, Connecticut, New Hampshire, and Wisconsin. He also visited the New England fair at Wooster, Mass., and the state fair at Milwaukee, Wis., and made arrangements for a car-load of stock to be shipped here when the National Dairy Show at Milwaukee, Wis., ends, which will be October 24. The professor says that he found it difficult to locate nice dairy herds that were desired in the way of foundation stock for the College dairy herd, and that if the foundation stock is not what it should be all work of the department will fall short of what it should be.

Alumni and Former Students.

A considerable number of items concerning alumni are postponed because of lack of space.

Born, September 17, to Mr. and Mrs. A. N. H. Beeman, '05, a son, who will be known as Elliott Atwood.

H. E. Kiger, '09, has accepted a position as instructor in the School of Agriculture, Purdue University, Indiana.—Nationalist.

Minnie L. Copeland, '98, is now located at Bartlesville, Okla., where she is meeting with steady employment as a trained nurse. She may be addressed in care of Dr. J. W. Blachly, 415 Choctaw Avenue.

Miss May Umberger, '07, is visiting College friends in the city for a few days before going to Lincoln, Ill., where she will have charge of the domestic science department at LincolnCollege.—

Nationalist.

Franklin Adams, '09, who has been in the city for the past few days, left last night for his home in Maple Hill. Later he will go to Pittsburg, Pa., to work for the Union Switch Company.—
Nationalist.

Carl P. Thompson, '04, writes that he has recently taken unto himself a wife and is happy and prosperous in their home near Garrison, Kan. The bride was Miss Ellen E. Sodergren, and the wedding took place September 1.

- F. E. Balmer, '05, is now teacher of agriculture in a consolidated rural school located at Lewiston, Minn.
- A. B. Nystrom, '07, instructor in dairying for the last two years in Ohio State University, has been elected assistant in dairying at this institution and has entered upon his duties.
- Prof. D. H. Otis ['92], a native Kansan and a graduate of the Kansas State Agricultural College, has been promoted from the position of assistant to that of professor of farm management at the Wisconsin State University.—*Breeders Special*.
- F. W. Christensen, '00, was married Wednesday, September 1, to Miss Alma Otilia Johnson, of Osage City, Kan. After October 15 they will be at home at State College, Pa., where Mr. Christensen has resumed his work in the Institute of Animal Nutrition.
- J. M. Westgate, '97, in an article in *Science*, August 6, 1909, discusses the cause of the hardiness of the so-called Grimm alfalfa. Mr. Westgate as a result of extended critical botanical, agronomic and historical study of the plant is disposed to attribute its hardiness to the presence of a small percentage of *Medicago falcato* in its ancestry.

Prof. Geo. L. Clothier, of the Mississippi State Agricultural College, a graduate of the Kansas State Agricultural College ['92], is visiting Kansas friends and incidentally showing his 1000-acre ranch in Marion county to his young wife. Professor Clotheir is possessed of the energy and initiative necessary for success in his undertakings.—Kansas Farmer.

Guy Noel will leave Sunday morning for Brookings, S. Dak., where he has a position in the Agricultural College in the agronomy and cereal departments. Mr. Noel graduated from our College last week, and is fortunate to secure a good position so soon. In one way this South Dakota college differs from some, as they refuse to employ any who use tobacco in any form.—Nationalist.

J. R. Harrison, class of '87, brother of Will, a Manhattan boy, is slated for another promotion in the postal department. It is given out from Washington that he will soon be made chief inspector of post-offices, with a permanent office in Washington and a salary of \$3500 per year. The many Manhattan friends of Mr. Harrison will be glad to congratulate him upon his promotion.

—Republic.

Ray Birch, '06, who has been in the employ of the Bureau of Animal Industry, Philippine Islands, arrived yesterday for a visit with old College friends. Mr. Birch relates a peculiar coincidence that happened on his journey. His brother, Wallace Birch, '04, recently received an appointment to a government position in the Islands without the knowledge of his brother. He started for the Islands after receiving his appointment and it so chanced that the two brothers met on the dock at Yokahama, one bound for America and the other going to the Islands. Neither of them knew of the other's plan to take the trip.—Nationalist.

THE INDUSTRIALIST.

Pres. H. J. Waters	Editor-in-Chief
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DR. J. D. WALTERS	Local Editor
DR. J. T. WILLARD	A lamoni Editor
DIV. U. 1. WILLIAMS	Alumni Editor

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THE INDUSTRIALIST

. VOL. 36. MANHATTAN, KAN., OCTOBER 9, 1909.

No. 2

A School for Wood-Carvers.

Dr. J. D. Walters, Professor of Architecture and Drawing.

It was the privilege of the writer while in Europe last summer to spend a very instructive forenoon in the wood-carver's school at Brienz, in Switzerland. The institution was founded in 1860 to assist the wood-carving industry of the Berneese Alps, an industry that had existed there since about 1820, when a citizen of Brienz, by name of Christian Fisher, had commenced to export the products of his shop and those of a few neighbors. Fisher was a wood-turner of considerable skill. He made spinning-wheels, trinkets of many kinds, and tobacco pipes, using for his materials the curly wood of the Alpine maple and the dwarf beech.

In the early twenties Fisher saw that the wood-carving industry was destined to have a future. He enlarged his shop, began to carve a greater variety of articles, such as jewelry boxes, picture-frames, clocks, footstools, etc., and gave work to a number of young men of the neighborhood who were anxious to learn the promising trade. The manufactured goods were sold in Bern, Interlaken, and Brienz, largely to tourists who began to flock to that beautiful mountain country in constantly increasing numbers. The venture of Fisher was successful. He was a gifted artisan and a business man, and when he died in 1847 the wood-carving industry had found a home in Brienz and in the neighboring villages.

In 1860 an artist from Paris, bearing the ultra-German name of Wirt, founded extensive shops in Brienz for manufacturing carved ornaments and furniture of all kinds. The enterprise was not a financial success and bankrupted in a few years, but it gave an impetus to the wood-carving industry all over the Oberland. It attracted the attention of the Berneese legislature and caused this to found a free drawing school at Brienz and to import and exhibit classic models from Paris. In 1884 the school was enlarged and transformed into a regular college for wood-carvers, with two courses and a faculty of several teachers. In 1897 a suit-

able stone building was erected, the cost of which was divided between the Canton of Bern and the town of Brienz.

Thus wood-carving, much assisted by the new Schnitzler Schule, as the college is being called, gradually spread over the district. There are now in Brienz, Meiringen, Interlaken and surrounding towns about a thousand highly skilled men and women at work at the "Schnitzler bank," and their output, consisting of every imaginable kind of carved trinkets, playthings, smoke-pipes, statuary, furniture, etc., finds a ready market in all parts of the world. The wages are not high as compared with similar skilled work in America, but they are very good for European conditions. Young men who have worked a few months at the bench can earn from three to four francs (60 to 80 cents) a day, in addition to some chore work done at home (every family keeps a few cows), while the men who have obtained considerable skill, and especially those who have taken a course in the Schnitzler Schule, can earn from five francs to twenty francs (one to four dollars). work is done at home in spacious and well-lighted basement rooms. though there are also a number of small factories. Many Swiss wood-carvers have lately come to America, where they have found ready work as modelers or decorators.

The school for carvers at Brienz has at present four regular teachers, sixteen students in the full four-years course, and fifty-six pupils in the drawing school. No one can enter the four-year course without a rigid examination in common-school branches. At matriculation the student pays a small tuition and furnishes a guarantee of one hundred dollars that he will remain in the institution for the full course (four years). Those who are not willing, or who may not be in condition to enter as students, can go to the drawing school, which does not require a guarantee.

In the full course the student gives three whole days per week to study and two days to work in the carving and modeling room. In some of the terms this order is reversed and more time is given to practical work. The course of theoretical work comprises geometry, physics, chemistry, history, art lectures, geography, etc. A main part of the theory days is given to drawing in its various branches. All the articles made in the school shops belong to the institution, which has by this time accumulated a very large number of most beautiful and valuable carvings of all kinds. To visit the art repository of the school is a revelation and an inspiration. The almost endless number of carved articles exhibits such faultless art forms and such a high degree of skill that one wonders how such results could have been

produced with such simple means and with such a modest financial outlay. A large number of the exhibited articles are marked for sale and tourists and others visit the sales room to procure artistic souvenirs. The school possesses a small zoo-park in which a few live animals, such as chamois, goats, brown bears, etc., are kept for live models, and if there is any line of work in which the Alpine carvers excel it is in the depicting of these animals. These are being carved in hundreds of characteristic and interesting attitudes and in endless combinations with articles of decoration.

The most renowned of the carvers of Brienz is undoubtedly "Papa" Hugler, a patriarch now over eighty years old, but still vigorous and erect. The writer visited him and the atelier where four sons and their families were busy at work. Mr. Hugler, in his youth, was also a chamois hunter up in the glacier region of the Jungfrau, Mönch, and Eiger. He was a close observer of nature and his groups of chamois and ibex families are simply charming. The Hugler shop, though not of pretentious exterior, is a veritable home of the wood-carvers' art.

The indications are that in time the wood-carving industry will spread over a much larger territory, just as watch making and lace weaving have done. In the hall of representatives in the federal capital at Berne, which the writer visited a few days later, there is a row of twenty-two wall seats with very high backs ornamented with carvings representing incidents of Swiss history. The carvings are the work of Ferdinand Hüttenlocher, a pupil of the school at Brienz and at present a teacher of wood-carving in the cantonal art school at Berne. These beautiful reliefs are pronounced the noblest examples of modern wood-carving in existence, a decoration that could probably not have been executed in any other country. Such results show what the unpretentious Schnitzler Schule up among the snowy peaks of the Alps is doing for its desciples and how successfully other nations are supplanting the ancient and decaying system of apprenticeship with wellorganized trade schools.

A press item from Kincaid, Kan: The farmers' institute work is arousing much interest this season. At Savonburg two hundred fifty were in attendance, and at Kincaid to-day more than two thousand. A horse and corn show was a feature, and many classes of cookery and sewing were in competition. Miss Frances Brown represented the Domestic Science Department and Mr. P. E. Crabtree the stock and produce departments of the Agricultural College work.

Egg Records.

Heavy laying capacity and large profit in hens is a much-discussed and debated question. The Poultry Department of the Agricultural College keeps close tab on the cost of feeding and the number of eggs produced by each hen.

There are two pens of pullets on the plant which were selected with the idea of heavy egg production. One of these contains S. C. W. Leghorns and the other W. P. Rocks. These two pens were selected from the young stock that was raised in 1908, and no one had the least knowledge as to the breeding of the parents, their originality, or their egg records, consequently the records which have been obtained since the record keeping commenced, February 1, 1908, have been both interesting and wonderful.

Some months ago a statement was given out concerning the egg production of a White Plymouth Rock pullet, No. 129. This individual had layed 48 eggs in succession without skipping a day. This same hen has produced 174 eggs between February 1 and October 1 and is still laying. No. 129 has a companion, No. 136, which has layed 181 eggs in the same length of time, and still keeps it up. This is at the rate of three-fourths of an egg per day, or 270 per year. Both of these hens are moulting and laying at the same time.

In this same pen are 9 other hens, and during the past eight months they have put 1499 eggs into the egg basket, or an average of over 136 eggs each.

The total cost of feed, with grain at the prevailing high prices, was \$8.81, or approximately 10 cents per month per fowl. The eggs when sold on the market brought in \$26.56, leaving a profit over the cost of feed of \$17.75, or \$1.61 per bird for eight months.

In the pen of 19 White Leghorns there is not found as high an individual record, 172 eggs being the highest, but the average is greater, 152+ eggs per fowl. The total value of the eggs was \$34.45. The cost for feeding these eight months was \$14.75, or a little over 9 cents per fowl per month. The total profit over feed was \$35.69, or \$1.87 per hen.

At this rate, it can easily be seen that in the next four months enough eggs will be produced to make the profit, above all expenses, at least \$1.00 per bird. Poultry men on large farms claim that if they can make hens yield a profit of \$1.00 each they will be satisfied.

In some other pens, not containing selected individuals, are White Leghorns which are in feeding experiments. The results that are being produced are extremely interesting, and it has been found that egg production is not all due to the feed, for in one pen of 25, where all are fed alike, one pullet produced 169 eggs and one 3 eggs in eight months. In another pen there is the contrast of 139 and 1 egg. The individuality of the hens must enter into this or the differences would not be so great.

In time it is hoped that a valuable amount of data can be obtained whereby the causes of this diversity of production may be determined.

If any one wishes to find out how these heavy egg producers were selected and fed, a letter to the Poultry Department will bring a prompt reply.

College Steers at St. Joseph.

The fat steers belonging to the Kansas State Agricultural College were exhibited last week at the Interstate Fair at St. Joseph, Mo., and carried off more honors and more money than all of the other herds on exhibition. At this show the Kansas cattle met full herds from the agricultural colleges of Missouri and Nebraska and herds from ten or a dozen of the best individual breeders of America. Each steer won in every ring except one steer in one ring.

The Kansas College Shorthorn calf, "Benefactor," was made grand champion steer of the show and won the handsome silver cup offered by Swift & Co. The champion in the Angus class was the Kansas College steer, "King Ellsworth," undefeated in his class in all shows last year, including the American Royal at Kansas City and the International at Chicago. The championship in the Shorthorn class was awarded to the Kansas calf, "Benefactor." There were awarded to the Kansas College cattle: the grand championship of the show; two breed championships; five firsts; three seconds; and two third prizes.

When the judges had finally ranked all the steers in the show for the grand championship, the Kansas Agricultural College bred Shorthorn calf, "Benefactor," stood first; the Kansas Angus yearling "Symboleer," who was champion calf over all breeds at the International last year, was second; the Kansas College two-year-old Angus was third; and the Kansas College yearling Angus steer, "King Ellsworth," stood fourth. Then followed the entries from the other colleges and from a dozen breeders of the country.

Nearly all of these cattle were bred at the College and all have been fed and cared for by students and employes of the College, under Professor Kinzer's direction. These steers have now been returned to the College to await the opening of the contest at the American Royal at Kansas City the second week in October.

Local Notes.

The new greenhouse is a thing of beauty.

The sophomore dairy class has 93 students enrolled this term.

The Library Department has received four dozen new chairs for its new reading room.

The Riley County Educational Society will hold its first winter meeting on December 16, at Randolph.

Director Webster, of the Experiment Station, addressed the Osage county farmers at their county fair last Saturday.

Assistant Philips, of the Poultry Department, is getting out a bulletin on the grading of eggs, corresponding to the system of grading cream now in use.

Assistant Wright, of the Animal Husbandry Department, took one of his classes in stock judging to the Manhattan fair to practice on the exhibited stock.

Assistant Earle Brintnall, of the Dairy Department, has resigned his position with the intention of taking charge of the parental farm near Winthrop, Iowa.

The shell of the new engineering building is nearly completed. Contractor Bennett hopes to finish the whole building before the opening of the winter term.

Secy. J. E. Brock, of the Farmers' Institute Department, was judge of grains at the Beloit fair last week. This week he performed similar duties at Minneapolis.

Assistant Tomi Miyawaki, of the Dairy Department, a Japanese, has a well-written article with illustrations in last week's *Mail and Breeze* on "The Construction of a Silo."

The Dairy Department is giving instruction to ten special students in cream testing to fit them for the State examinations for operators of skimming stations and creameries.

Assistant E. G. Meinzer, of the Department of German, has recently received the degree of A. M. of Olivet College, Mich. A part of his work for the degree was done in Chicago University.

Assistant Lamb acted as judge of the poultry at the Dickinson county fair at Abilene last week, and Assistant Philips served the farmers of Pottawatomie county in the same capacity at Wamego.

The first football game of the season resulted in a glorious victory over the Salina Wesleyans. It was played last Saturday in the Manhattan Athletic Park and resulted in a score of 35 to 0 in our favor.

To-day (Saturday) our football team meets the Missouri "Tigers" on the gridiron at the University at Columbia. It is the first contest of our men with that team and the result can not be predicted.

The Department of Architecture and Drawing has moved its clay modeling class into the southwest room of the basement of Anderson Hall. The class meets Monday forenoon and is taught by Miss Putnam.

Dr. and Mrs. E. R. Nichols are now visiting with Mother Nichols at 635 Borthwick street, Portland, Ore. We regret to learn that Mrs. Nichols, senior, is in a critical state of health, she being almost helpless.

Wednesday night of last week a dozen alumni of the College had a bonfire party on Mount Prospect. They sang old College songs, told horrifying ghost stories, emptied their capacious lunch baskets, and had a general good time.

The Engineering Association has elected the following officers for the ensuing year: President, A. R. Losh; vice-president, F. E. Wilson; treasurer, F. Newacheck; marshal, Anton Hansen; board of directors, T. Sherrod and R. S. Walthour.

Many friends of Doctor and Mrs. Mayo, so long connected with this institution, will be glad to learn that the doctor has been elected professor of animal husbandry and veterinary science in the Virginia Polytechnic Institute, Blacksburg, Va.

The senior officers for the fall term are Louie Aicher, president; Carrie Gates, vice-president; Stella Ballard, secretary; R. E. Talley, treasurer; Billie Hopper, marshal; Dick Losh, Margaret Eastland, second and third members of the finance committee.

The Heat and Power Department is working day and night to complete the repairs and enlargements of the heating system made necessary by the constant growth of the institution. Two new 250-horse-power boilers were installed in the heating plant this fall.

At a recent meeting of the board of control of the *Students' Herald* George Hungerford was made local editor to succeed Kate Blackburn, who is not in school this year. Oley Weaver was appointed reporter in place of Verne Dyatt, also out of school, and Miss Florine Fate was appointed associate local in place of Mr. Hungerford.

The total annual cost to the State per student for the past year was about \$111, which is over forty per cent less than the average annual cost of the twenty-two state institutions of the Middle West. Several conclusions may be drawn from this fact, one of which is that the work of the College has been well conducted and that the strictest economy has prevailed in all of its departments.

The Department of Architecture and Drawing has recently added two new teachers to its staff—Mr. H. E. Grazier, a graduate of Pennsylvania University, and Miss Charlotte Morton, '08, of Tescott, Kan. The former will teach the branches taught by Mr. Sheldon Brandt, who is now running a gold mine at Sunset, Colo., and the latter will assist in the work of the freshman year. Miss Morton was a student assistant in drawing for three years before she graduated.

A team that will enter a decisive figure in the State champion-ship this season is the Aggies. Mike Ahearn didn't lose many men this season on account of the four year rule and has a swell bunch of material with which to work. Gingery, who last fall made the Washburn line fade away like the dew of an early August morning, is the captain of this year's team and is everything that his name might seem to indicate.—State Journal.

Drinking fountains are being placed in several of the buildings at the College. These might be called "cupless" fountains. They comply with the recent order of the State board of health to the railroads. All that is needed to get a drink is to stoop over and catch the tiny stream of water shooting upwards. This should be easily accomplished after some practice. The students will probably have some amusement with the new fountains, provided, of course, that Custodian Lewis is elsewhere.

You have probably noticed on the first page the picture of the big domestic science class at Manhattan. They look as if they knew how to cook, don't they? And when they are studying there they not only learn how to cook, but how to buy and how to serve, and how to keep a house spotlessly clean. They learn how to sew, and how to cut out a dress by a system instead of by a pattern. They study home decoration, the principles of ventilating, heating, and lighting. Then they study history and English and psychology and all the other ologies. So when they finish a four-years' course there they really are as wise as these girls look, sitting so demurely in their pretty white aprons.—Mail and Breeze.

The College is making an interesting and instructive exhibit at the Missouri Valley Agricultural Fair, held in the Kansas City Electric Park, October 2 to 10. The Dairy Department has sent down seven head of dairy cattle and the milking machine. It has also on exhibition a model dairy farm, with buildings and growing fields, supplemented by charts showing the kind and rotation of crops to be grown in order to support a cow per acre. This part of the exhibit is of a character never seen before. The large natatorium at Electric Park has by skilful work been transformed into a miniature model farm. A tract has been planted to alfalfa and other tracts to different kinds of forage plants and grains. The department has also on exhibition a set of plans of practical farm buildings and a working farm dairy. Another striking exhibit shows the comparative annual yield of butter by a poor, an average, a good. and the world's champion cow. The Agronomy Department has an exhibit of grasses and grains grown by the College Experiment Station, artistically arranged as a wall decoration in the Horticultural Hall. Professor Kendall has given his personal attention to the details of the College exhibit. He is also superintendent of the dairy division of the fair. Assistant Miyawaki (a special student of dairying, from Japan) and senior student Turner are in charge of the exhibit as demonstrators. The advertising given the College will be valuable and it will convey to the Missouri farmers some idea of the subject of dairying as it is taught at Manhattan.

We promised last week to publish a student count by classes in this week's number, but Secretary Butterfield and her assistants have been so busy that the classification is not fully completed at this writing. The total number of students who have paid their incidental fee is close to 1800 and is still climbing.

Prof. J. D. Walters has added some important as well as entertaining pages to the Kansas annals with his "History of the Kansas State Agricultural College." This has been running "serially" in the College Industrialist. Many who appreciate the value of these records and who would like to get them bound together will be glad to learn that the College Printing Department will issue them in book form in September. While the papers chronicle the origin and development of the College and the men who have served it, they also present many anecdotal side lights illuminative of the personages described, enabling the reader to know them somewhat on their more human side. The whole combines into a fairly complete history of the College which anyone interested in Kansas matters will find good reading.—Mail and Breeze.

The Board of Regents have added a number of teachers to the board of instruction this summer. A glance at the revised list of teachers published in this number of the Industrialist will show over a dozen new names. Among those who have been recently elected are the following: A. E. White, of Greencastle, Ind., became an assistant in mathematics to take the place of J. D. Magee, who recently resigned to take postgraduate work at Chicago University. Mr. White is a graduate of Purdue University, was for two years principal of the Greencastle high schools, and was appointed assistant in mathematics at De Pauw University, which appointment he resigned to come to Kansas. The vacancy left by the resignation of Assistant Professor Freeman in the Botanical Department was filled by W. E. Davis, M. S., of Chicago, Ill., a graduate of the University of Illinois, and with two years completed towards a doctor's degree. A new assistantship was also created in the Botanical Department and filled by Paul W. Graff, of Storrs, Conn., a graduate of Connecticut Agricultural College, and who has completed two years at Harvard. He is at present in charge of the department of plant pathology at the Storrs Experiment Station, and will also have charge of this branch of plant industry at the College. The vacancy left by Assistant Professor Wheeler in the Animal Husbandry Department, who has joined the Farmers' Institute staff, was filled by F. G. King, of Missouri. Professor King is a graduate of Missouri University. He was for two years assistant in Animal Husbandry in the United States Department of Agriculture. past eighteen months he has been at the head of the Animal Husbandry Department of the State Board of Agriculture. He is a recognized authority on feeding beef cattle and hogs. make the third King on the board of instruction, the others being, Prof. W. E. King, of the Bacteriological Department, and H. H. King, assistant in chemistry. We have "Bacteriology King," and "Chemistry King"-why not designate our third King as "Cattle King."

Mr. Paul W. Graff, B. S., recently elected assistant in the Department of Botany, was born in Indianapolis, Ind. At the age of five he moved with his parents to Bridgeport, Conn., which place has been his home ever since. He went to school here and graduated in 1900 from the high school. While in the high school he became interested in library work and during the last three years of the course he was employed as assistant at the Bridgeport public library, which position he continued to occupy for a year and a half after graduation. His intention had been to follow library work for a calling, but after a time the opportunities of the Connecticut State College appealed to him and he became a student in that institution, graduating in 1907. In 1905, '06 and '07 he assisted in the summer courses as instructor in botany. During the last summer session he became acquainted with Dr. G. P. Clinton, the botanist of the Connecticut Experiment Station, and received an offer to become his assistant at New Haven, which offer he accepted. When he entered the college he expected to devote himself to horticulture, but he now began to specialize in botany, and with this in view he accepted a teaching fellowship at Harvard University department of botany and became a graduate student under Doctor Roland, serving a semester as his assistant, and under Prof. G. L. Gooddale, serving a second semester. His fellowship was renewed for '08 and '09 and he continued his studies with Professor Thaxter. The summers he spent at New Haven as assistant in botany to Doctor Clinton, a position which he held when called to Kansas. Mr. Graff comes to us well recommended and we are certain of the high character of the work he will do at Manhattan.

Alumni and Former Students.

Space last week did not permit printing the following items at that time:

Helen B. Thompson, '03, is professor of domestic science in the Rhode Island Agricultural College at Kingston.

Clara Pancake, '03, writes of a delightful summer spent at Eagles Mere, Pa., where she is also remaining during the early fall.

- M. E. Chandler and C. A. Chandler, '00, have formed the Elmhurst Landscape and Nursery Co., with sale yards at 35th and Main, Argentine, Kan.
- O. A. Stevens, '07, who has filled an assistantship in Botany here the last two years, has accepted a position in the North Dakota Agricultural College.

Carrie (Painter) Desmarias, '99, is now living at Mulvane, Kan. She and her husband have traded their ranch property for the Mulvane Mills and Elevator.

Miss Alice Loomis, '04, will spend this year in study at the University of Wisconsin. At the same time she will assist Miss Marlatt in the domestic science department.

E. G. Schafer, '07, assistant in agronomy here for the past two years, is now taking graduate work at the University of Illinois. His address is 908 Oregon street, Urbana, Ill.

Miss Ida Rigney leaves Saturday for St. Joseph, where she has accepted a position as dietician and will give lectures upon diet to the nurses in Emsworth's hospital.—*Republic*, *August 10*.

Daisy Harner, '06, has been elected teacher of domestic science in the State Normal School, Oshkosh, Wis. During the last week of July she gave Chautauqua work in domestic science at Paola, Kan.

Bertha E. Cowles, '05, is now working as pastor's assistant in the First Methodist Episcopal Church of Coffeyville, Kan., and enjoys her work very much. Her street address is 311 West Tenth.

H. E. Porter, '07, was married July 14 to Miss Louise Pierce, of West Springfield, Mass. Mr. Porter has bought the Barnett cottage, on Houston street near Eleventh, where he and his bride are now at home to their friends.

J. R. Coxen, '07, is now superintendent of normal training in the New Mexico Normal University, at Las Vegas. He put in a part of the summer attending the State Normal Training School at Pittsburg, Kan., with regret that his Alma Mater offered no summer course in manual training work.

Miss Abby Marlatt, '88, who has been teacher of household economics in the technical High School of Providence, R. I., was chosen to organize and conduct the domestic science department of the College of Agriculture in the University of Wisconsin. Miss Marlatt's experience and executive ability give abundant assurance that she will succeed.

Caroline Morton, '06, and Louise Fleming, '08, gave Chautauqua work in domestic science at Clay Center and Topeka last July. Edith Ingham and Virginia Meade, both of the class of 1909, gave courses in domestic science at the Chautauquas of Herington, Peabody, and Council Grove. Miss Meade is now teaching in the Domestic Science Department here.

Last week J. C. Christensen ['94] received an appointment as deputy bank examiner, under the bank commissioner of Kansas. Mr. Christensen is especially well qualified for the place and will give the State excellent service. He has resigned his position as cashier of the Farmers & Merchants bank at Leonardville, to take effect as soon as a successor can be secured. He takes up his duties as examiner at once, but will spend Saturday in Leonardville. His territory will be from Republic county west. The Republic is well pleased with this appointment.—Republic, August 10.

Miss Grace Smith ['08] was the bride and Mr. Roy Graves ['09] was the groom at a beautiful wedding Saturday morning at the home of Mrs. M. H. Smith, 423 Laramie street. At 10 o'clock Mendelssohn's wedding march was played and the couple entered the parlor, where the guests were assembled, and Rev. D. H. Fisher performed the ring ceremony, during which Misses Laura Lyman, Laura Perry and Lucile Brown sang softly Schubert's "Serenade." Following the ceremony a delicious two-course wedding breakfast was served. Both Mr. and Mrs. Graves are graduates of the College. Mrs. Graves belonged to the Phi Kappa Phi sorority and is a great favorite among a wide circle of friends. Mr. Graves has a position with the Walker-Gordon laboratory in Kansas City. They will live at 2410 College Avenue, Kansas City, Mo.—Republic, August 10, 1909.

Changes of address: A. J. White, '74, 2315 W. Morrison street, Chicago; Madeline W. Milner, '91, 4336 North Hermitage Avenue, Chicago; E. C. Joss, '96, East 41st and Gladstone streets, Station "D," Portland, Ore.; C. B. White, '99, 411 West Second street, Topeka, Kan.; A. E. Oman, '00, Weiser, Idaho; Harvey McCaslin, '01, Phillipsburg, Kan.; Erma Locke, '01, Phillipsburg, Kan.; H. P. Richards, '02, General Delivery, Topeka, Kan.; A. J. Reed, '03, 6135 Racine street, Oakland, Cal.; W. B. Banning, '04, R. F. D. No. 1, Delphos, Kan.; H. V. Harlan, '04, 1199 Raymond Avenue, St. Paul, Minn.; Jessie M. Hoover, '05, State Agricultural College, Fargo, N. D.; P. A. Cooley, '06, Ellendale, S. D.; L. W. Lawson, '07, 549 64th Avenue, West Allis, Wis.; O. H. Gish, '08, Lincoln, Nebr., care of U. S. Weather Bureau; Jessie Marty, '08, Lincoln, Nebr.; Leon Davis, '09, Davis, Cal.; Susanna Schnemayer, '09, Pocatello, Idaho; O. R. Wakefield, '04, 352 S. Hayne Avenue, Chicago; Ed. Logan, '05 and '09, Wamego, Kan.; Mabelle (Sperry) Hennessy, '06, Gas City, Kan.

At the home of Mr. and Mrs. Ed. Brooks, of Tescott, on Wednesday, September 15, 1909, at 6 p. m., Mr. Leslie Eugene Hazen, of Centralia, Kan., and Ella V. Brooks were united in marriage by Rev. F. N. Stelson, assisted by Rev. G. L. Rarick. Miss Gladys Mathews was first bridesmaid and Edwin Brooks first groomsman. Miss Brooks, a sister of the bride, sang "Oh Promise Me," and Miss Fanny Brooks, also a sister of the bride, played the The groom is a graduate of the Agricultural College at Manhattan, completing his course with the class of '06. After graduating, he was employed by the government in the Experiment Station at Hays for two and one-half years. His present home is at Centralia, Kan. The bride's home has been at Tescott for many years, where she is well known and highly respecteda young woman of great kindness and accomplishment. studied at the Agricultural College several years, graduating from the domestic science course in 1909. They will make their home in Centralia, where they will be at home to their many friends after October 1.—Nationalist.

Miss Vera McDonald and Dr. Charles A. Pyle were married last evening [September 16] at 8:30 o'clock at the home of the bride's father, Emmett McDonald, 600 Pierre. Miss Hallie Smith sang "The Song of the Heart," and Miss Grace Pyle, a sister of the groom, played the wedding march of "Lohengrin" as the bride and groom came down the stairs unattended. They stood in the archway and were married by Reverend McLain, who used the ring ceremony. Mrs. Pyle graduated with the '04 class and for three years was employed in the Secretary's office at the College. Mr. Pyle graduated from the agricultural course in '04 and the veterinary class in '06, and at present is employed as assistant in veterinary science in the University of Minnesota. The young couple will be at home at 300 Fifth Avenue, N. E., Minneapolis, Minn., and the good wishes of many friends go with them.—
Republic.

One of the prettiest weddings of the season was that of Miss Laura Lyman and Chauncey I. Weaver, of Minneapolis, at the Congregational church September 15 at 8:30 p. m. The altar was banked with palms and ferns and made a pretty background for the bridal party. Mrs. W. W. Hutto played several selections on the organ and Mrs. Dan Otis, sister of the bride, sang Schubert's "Serenade," and the bridal party marched in to the strains of the wedding march of "Lohengrin." A nephew of the bride, little Grant Otis, acted as ring bearer. He was followed by the flower girl, Helen Eakin, who preceded the bride and groom down the They were met at the altar by Reverend Thurston, church aisle. who performed the ring ceremony, and Reverend McLain, who assisted him. The bride wore a dainty princess gown of French have trimmed in cluny and val lace. She wore a long veil and carried a cluster bouquet of bride's roses. After the wedding a reception was held at the Lyman home, 718 Houston, for the rel-Stives and a few intimate friends. Mr. and Mrs. Weaver left on the midnight Rock Island train for Kansas City. From there hey will go north and will spend two weeks on the Lakes, and after the first of October will be at home at Minneapolis, Minn. Mrs. Weaver was a popular member of the '06 class and for the past two years she has taught domestic science at the Bethel Mission in Kansas City. She was a member of the Ionian society and Cueer Cuartet, and has many friends who regret to have her Mr. Weaver is also a member of the '06 class and at present has a good position as manager of the electrical department of the Marshall Wells Co., of Minneapolis.—Republic.

Notice.

Legal notice is hereby given that at the next annual meeting of the Alumni Association of the Kansas State Agricultural College amendments to the constitution will be offered for adoption. These amendments will aim to make the association stronger and more effective by providing means whereby all members may participate in the business of the association. J. T. WILLARD, '83.

WANGAS STATE

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(Board of Instruction concluded on last page.)

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MANHATTAN, KAN., OCTOBER 16, 1909.

No. 3

Proof-reading-What it Involves.

Amy Allen (B. S., '04), Assistant in Printing.

Another name for proof-reader is "corrector of the press." As the latter term implies, a proof-reader is an employe of a printing establishment whose duty it is to read, for the detection of error, all jobs and publications turned out of the office.

Errors that the proof-reader is supposed to detect are many and varied, consisting of much more than mere typographical errors. Careful attention must be given to the style, the spelling and compounding of words, the sentiment, the grammatical construction, the punctuation, and also to numerous questions that arise characteristic of each class of work. This explains why the quality of concentration of mind to the work in hand, and this unceasingly throughout the reading, is of prime importance to the proof-reader.

Errors of a typographical nature are of various kinds, including turned letters, doubles, outs, transpositions, incorrect spacing and paragraphing, crooked lines, wrong indentation, wrong font letters, omission of logotypes and diacritical marks, etc., etc. The accompanying plate shows the marks used by the proof-reader to indicate errors or alterations.

All well-regulated printing houses have what is known as the style board. This means that the house has adopted a certain style of punctuation, capitalization, abbreviation, etc., which is followed strictly in all the work of the office. The object of the style board is to enable the compositors to set the type in a way that will call for a minimum of correcting. In many cases authorities differ as to which style is the correct one, and it therefore matters not which style is adopted, uniformity being the point at issue. It would not look well for a word to be capitalized in one place and made lower case in another, or for a word to be abbreviated in one place and spelled out in full in another. So the style board enables the compositor to set the type in the first place according to

the style adopted by the office, and thus reduces labor in correcting.

Among the common errors in spelling which the proof-reader encounters are the following: accommodate, condemed, enrolled, enrollment, refered. Often, however, it is not sufficient that a word is spelled correctly, for in some cases there are two correct spellings, as practice and practise, mold and mould, employe and

X Change bad letter.	Move over.
2 Push down space. 9 Turn over.	☐ Em quad space.
3 Take out (dele).	/-/ One-em dash.
↑ Left out; insert.	/2/Two-em dash
# Insert space. V Even spacing.	¶ Paragraph.
Less space.	No ¶ No paragraph.
Close up entirely.	w.f. Wrong font.
O Period.	Let it stand.
/ Comma.	stet. Let it stand.
Colon.	tr. Transpose.
Semicolon.	Caps Capital letters.
V Apostrophe.	s. c. Small caps.
Quotation.	l. c. Lower case or small letters.
-/ Hyphen.	Ital. Italics.
Straighten lines.	Rom. Roman.

employee, and if the word occurs more than once uniformity must be observed.

One annoyance to the proof-reader is his inability to tell readily, without consulting the dictionary, the class to which a word belongs—whether it is one word, two words, or compound. The Standard Dictionary is followed by the Printing Department of the Kansas State Agricultural College, and this authority gives schoolroom as one word, class room as two words, and cloak-room as compound; schoolmaster as one word and school-teacher as compound. Unless the proof-reader can rely on his memory, he must consult the dictionary whenever he encounters words of this nature.

It is often difficult to tell how words of more than one syllable should be divided, in case division is necessary at the end of a line. For example, excessive is divided excess-ive, while subjective is divided subjective, and succession is succession. Of course, this depends on the pronunciation, and too, the proof-reader reads

with his eye as well as his mind in such cases, often detecting an error simply because it "didn't look right."

The diaresis letters, as ö in coöperative, ë in preëminent; the diphthongs, as æ in mediæval and formulæ; the accented letters, as the acute é in Santa Fé and San José, are points that demand the attention of the proof-reader. He is also concerned with proper paragraphing and the correct use of italic type and small capitals.

One of the most important requirements of the proof-reader is that he grasp the thought which the author intends to convey, for upon this, so far as the proof-reader is concerned, correct punctuation and grammatical construction depend. And upon this latter, to a great extent, depends the conveying of the thought to the public. The readiness with which the proof-reader grasps the subject-matter depends in great measure on the extent to which he is interested in the subject. If the subject is uninteresting, it is difficult to keep the mind concentrated upon the thought, but instead the attention is turned to typographical and other errors. On the other hand, it has been the experience of the writer to become so interested in the subject-matter that she quite forgot to be on her guard for errors of a typographical nature. So, while the mind must be concentrated on the detection of errors, it must be divided between the various kinds of errors.

A. M. Smith, in "Proof-Reading and Punctuation," gives the following errors of a typographical nature as the most likely to escape notice:

1. The omission of a letter or syllable, or the substitution of one letter for another which does not greatly change the outline of the word; as, constution for constitution, edifid for edified, country for country.

2. The insertion of a word which is not in the copy and which does not materially alter the sense. This is especially true of articles and conjunctions.

3. The repetition of a syllable or word which ends one line, at the beginning of the next.

4. The substitution of one word for another, which differs from it but slightly in spelling and which sometimes makes sense; as, wall for hall.

In some offices the system is adopted by the proof-reader of going through a proof several times, intent each time on finding errors of one particular kind. He reads it first for the sentiment, then runs through it again noting the spelling and punctuation, and again searching for typographical errors.

"We are told that Aldus, in order to eliminate all errors from his edition of Plato, offered a gold coin for every mistake that could be discovered. Also, that publishers of his day used to publicly expose the proof sheets of their works and offer rewards to those who would point out errors. 'And yet such unlucky mistakes often crept into their works that they declared that either the devil presided over typography or there was diabolic malice on the part of the compositors.'"

So it remains a fact that errors are allowed to pass unnoticed even by the best of readers, and there is some consolation in this fact when it is our misfortune to let them escape our attention. But proof-reading is fascinating. It is hard work when continued eight hours a day for days at a time, but there is a pleasure in settling the numerous questions that arise and a feeling of satisfaction when the work is accomplished, for care and attention to details on the part of the proof-reader makes the final product all the more a work of art.

From an educational standpoint, proof-reading is a desirable vocation to follow; first, it is inexhaustible in its scope, there being always something new to learn; and second, it compels extensive reading on a broad range of subjects.

Hog-cholera Serum.

Dr. F. S. Schoenleber, Professor of Veterinary Science.

Hog-cholera serum, as we use the term, is the defibrinated blood taken from the hog which has been rendered absolutely resistant to hog-cholera. The system of this animal is brought into a condition in which it will not under any circumstances succumb to the disease. An animal in this condition is called hyperimmune, and the process employed in reaching this stage is called hyperimmunization, or hyperimmunizing the animal.

Any hog which has recovered from an attack of hog-cholera or passed through an outbreak without having contracted the disease may be regarded as an immune animal. Any susceptible hog may be rendered immune for a variable length of time by injecting into his system the proper amount of serum taken from an hyperimmune animal.

A susceptible hog is one that will contract the cholera when exposed to the disease. All healthy herds are considered susceptible.

Virulent blood is the blood of hogs sick with the disease and contains the virus or substance which is the cause of the disease. Just what this virus is is not definitely known.

The process of hyperimmunizing is very simple and consists of injecting subcutaneously or into the muscles of an immune animal about ten cubic centimeters of virulent blood for every pound of body weight, in different amounts at intervals of ten days. animal weighing about one hundred pounds receives two hundred cubic centimeters of virulent blood injected subcutaneously. about ten days he receives four hundred cubic centimeters and ten days later he receives four hundred cubic centimeters more, making a total of one thousand cubic centimeters. Ten days after the last injection the animal is considered hyperimmune and is ready to yield the protective serum. The animal is now bled several times, about ten days apart, and the blood is at once defibrinated and preserved with a one-half per cent solution of carbolic acid. Each animal of about one hundred pounds weight yields a total of somewhere near three thousand cubic centimeters of the serum. The best results are obtained from hogs weighing about one hundred fifty pounds.

In vaccinating there are two methods which can be used—the serum alone method and the "serum simultaneous" method. In the serum alone method, as the term indicates, the serum alone is injected into the susceptible animal, usually at the rate of about twenty cubic centimeters per each hundred pound of hog. This usually renders the animal immune to the disease for several weeks. There is absolutely no danger involved in this method.

With the "serum simultaneous" method there is injected simultaneously, in addition to the serum, a small amount of virulent blood. This has the effect of producing an immunity for a much longer period, the time varying from six months to the full life of the animal.

The serum alone method is attended with absolutely no danger to the animal, not even a loss of appetite. when the serum has been properly prepared and applied. The immunity, however, thus produced lasts only a few weeks.

The "serum simultaneous" method is attended with more or less danger on account of the virulent blood used. The animal usually loses his appetite for a variable period, some even become quite sick, others die with the cholera thus produced. The effect of this method is to give the animal a very slight attack of the disease, which renders it immune to any further attack. The loss from this method should ordinarily not exceed a very small per cent. The lasting immunity produced in spite of its attending dangers gives this method decided preference. In view of these dangers and in order to reduce them to a minimum it is necessary that the vaccinating be done only by qualified graduate veterinarians.

In vaccinating, healthy herds only are used. When once thoroughly infected there is little hope for satisfactory results. The most economic method of application in general practice is to absolutely quarantine the infected herds, to dip the animals, thoroughly disinfect the premises, and vaccinate all healthy herds around the infected centers. Absolute quarantine should be maintained, not only against persons entering the yards, but also against dogs, fowls, and other animals and birds. This would prevent its spread, especially if taken before the disease becomes general in any locality.

The Veterinary Department has begun the production of this serum with the view of furnishing it at cost to the farmers and breeders in the State. Just what this cost will be cannot yet be stated.

The Experiment Station has set aside three thousand dollars and about eight acres of land for this purpose, which is to include further experiments by the Bacteriology Department in their horse-serum project. The three thousand dollars is to be used exclusively for the production of hog-cholera serum according to the method above outlined, which is the formula of the United States Department of Agriculture. A number of pens, yards and buildings have been built, and more are being constructed as the progress of the work requires. The immunizing of the hogs is being pushed as rapidly as the process will admit, there being now about a dozen immune hogs on hand which are used for this purpose.

As soon as a quantity of the serum is produced it will be tested and will then be ready for distribution. It will, however, not be distributed in any quantity before probably the first of the year, at which time it is expected there will be at least forty hyperimmunes on hand. For the production of this serum it will require the whole time of one veterinarian, with the addition of some expert help during part of the time, and several helpers. However, the results obtained will warrant the outlay.

A mass meeting will be held at the court-house in Manhattan on October 19, 1909, for the purpose of discussing ways and means of improving the roads in Riley county. The meeting will be addressed by Arthur C. Johnson, president of the National Good Roads Association, and Henry W. McAfee, president of the State Good Roads Association.

The Enrolment.

A count of assignments, made by Secretary Butterfield last Tuesday, October 12, gave most gratifying results. There were present in class on that day:

	1909	1908	1907	1906
Graduates	8	14	8	8
Seniors	148	126	115	115
Juniors	276	221	131	133
Sophomores	362	346	342	209
Freshmen	392	367	470	368
Subfreshmen	349	331	302	300
Preparatory	64	92	93	107
D. S. Short Course	107	100	123	85
Specials	61	19	22	25
Totals	1767	1616	1606	1350

These figures by classes represent the attendance at about the same time of the fall term; that is, about October 10, except the figures of last year, which were obtained ten days earlier. They show a total increase of 151 enrolled over last year, and of 417 over three years ago. They tell the friends and patrons of the College something of its growth; they tell the citizens of Kansas something of the esteem in which their great technical school at Manhattan is held by the farmers and mechanics of the State, and they tell the law makers that the biennial appropriations for the institution must necessarily be made with a liberal hand. The College in many of its departments is more crowded and shorter of necessary class room and laboratory room to-day than at any time in its history. But, let the students come and let the good work go on.

The Stock-Judging Contest.

The annual contest between the western agricultural colleges, at the Royal Stock Show at Kansas City last week, gave our institution third honors. The team of the Missouri Agricultural College, at Columbia, won the first prize, a silver loving-cup valued at \$500, at the stock-judging contests at the cattle show. This cup must be won three times in succession before it may be retained permanently by the winner, but this is only the first time that a Missouri team has won the cup. C. M. McWilliams, a student at the Missouri Agricultural College, won the first prize of \$50 in the individual stock judging contest. The teams were of five men each and judged a class of horses, one of cattle and three sheep. A perfect score in the contest would have been 5200 points.

The following is the rank of the teams, with their scores:

Missouri Agricultural College first, 4202 points; Iowa State College second, 4114 points; Kansas Agricultural College third, 3982 points; Nebraska Agricultural College fourth, 3975 points.

The rank of the individual contestants was as follows, 1000 being reckoned as a perfect score: C. M. McWilliams, of Missouri, 885 points, first prize of \$50; John F. Ryland, of Missouri, 860 points, second prize of \$40; J. J. Thompson, of Iowa, 838 points, third prize of \$30; R. W. Cassady, of Iowa, 833 points, fourth prize of \$20; L. A. Weaver, of Missouri, Thomas E. Clark, of Kansas, H. Hackeldorn, of Missouri, V. S. Culver, of Nebraska, A. J. Ostlund, of Kansas, and W. D. Austen, of Kansas, each received a cash prize of \$10. Prof. E. A. Trowbridge, of the Missouri Agricultural College, coached the Missouri team. Prof. W. A. Linklatter, of Stillwater, Okla., was the judge of the contest.

The members of the stock-judging class who went to Kansas City from this College are: Thomas Hall, L. C. Aicher, A. J. Ostlund, Roy Masheter, and F. E. Clark. Professors Kinzer and King went with the class.

A Kansas Highway Engineer.

The Kansas City Star makes the following pertinent remarks concerning the appointment of Professor Gearhart, now of this College: "In the selection of Mr. W. S. Gearhart as State engineer the Board of Regents of the Kansas Agricultural College seem to have found a young man thoroughly equipped for the place. He has had several years' experience in actual road work, in addition to the equipment of a complete college course in engineering. This preparation is reënforced by an ambition for an accomplishment which ought to meet with a quick and vigorous response from the Kansas people.

"Mr. Gearhart's efforts will be limited, during the first two years of the administration, because of the failure of the legislature to provide funds for his department. Aside from his salary, Mr. Gearhart will not have at his disposal more than twenty-five hundred dollars a year, and it is obvious that extensive results are not to be anticipated from that amount. But that is tribute Kansas

must pay to its indulgence in cheap statesmanship.

"Even with the necessarily limited possibilities, however, Mr. Gearhart will undoubtedly be able to accomplish something in the matter of laying the foundation for the good-roads movement in that State. His plans for a campaign of education among the farmers,

in connection with the Farmers' Institute work, which is already well organized under the direction of Superintendent Miller, is certain to result in the awakening of a deeper interest in good roads, and when the farmers fully comprehend the vital importance of modern highways they will find the way to remove the cheap statesmen from the path of progress.

"Every Kansas county should avail itself of the provision of the law which gives to each one—large or small—the advantage of Mr. Gearhart's counsel and assistance in road work and bridge construction. That is one good provision of the law that the politicians did not defeat, and it ought to result in a general improvement in the efficiency of road building in Kansas."

Extension of the Street-Car Line.

The extension into the College grounds of the Manhattan streetcar line is a matter of much interest to this institution, but there are several difficulties in the way. The Regents do not want to spoil the fine campus in front of the buildings by unsightly tracks of any kind, and they are somewhat in doubt whether they have the right to grant track privileges to any corporation for any pur-For this reason the street-car company abandoned its first projected route, which was to enter the campus near the main gate, and laid its track along the south side of the campus to a point directly south of the Auditorium, where the present terminus is located. It wishes now, however, to extend the line along the county road about four or five hundred feet to a point directly south of the heating plant, and then to enter the grounds in order to reach the new Engineering Hall. By doing so it can transport the large amount of fuel and other materials that are being consumed there and thus be of service to the College. A way station might then be built in the rear of Anderson Hall, which would be of much benefit to the students and teachers.

This extension, however, if made will require considerable engineering work in the public road along the College farm. It will mean the covering or culverting of South College creek for the whole four hundred fifty feet, which will be a costly undertaking. Ordinarily there is no water in that creek bed, but during the spring and early summer it sometimes becomes a raging stream. To build a concrete or brick culvert the whole length will cost several thousand dollars, an expense which the street-car company can not bear alone, and an improvement in which the county, the adjoining property owners and the College are alike interested.

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At a recent meeting of the county commissioners Mr. West, the manager of the street-car company, brought the matter up and asked for the financial cooperation of the county. The commissioners agreed to assist in the raising of the necessary funds provided the other interested parties would share alike in the effort of improving the road. President Waters, of the College, was interviewed, the ground was carefully gone over, the plans of Mr. West were studied, and it seems now that the cooperation of all parties may be secured and the culvert may be built.

The culverting of the creek will not only improve the county road and make possible the extension of the street railway, it will also materially beautify the campus from the south side. The stone wall built in 1872 has in many places slid down over the embankment. The creek bed is being filled up with rubbish and grown over with bushes and weeds. If the culvert can be constructed the whole south side can be kept in good shape without much of an effort and eventually the car line can be extended farther west to the new athletic park that is being planned in the southwest part of the campus.

Arrangements have been made by the College Extension Department to run a dairy institute train over the Santa Fé lines in Southeastern Kansas, starting from Topeka the morning of October 25. From there the route will be east to Holliday, south to Olathe, west to Ottawa, south to Independence, west to Fredonia, Madison, Eureka, Howard, and Winfield, and north to Mulvane, El Dorado and Florence, and back to Topeka. The detailed itinerary will be ready for publication in a few days. Forty-minute stops will be made for the lectures, which will be given in the cars. The Santa Fé industrial department will furnish the train and the College the speakers. The railroad believes in joining with the Agricultural College to promote agricultural interests along its lines.

The well-known publishing house of G. P. Putnam's Sons, of New York, have recently presented the College library with a full set of "Professor Raymond's System of Comparative Aesthetics," third revised edition. The set consists of eight octavo volumes. It is well printed and richly illustrated and treats the basic subjects of form, movement, rhythm, harmony, proportion, color, etc., in a highly attractive and philosophic manner. It will be of much service to the students of architecture, decoration, and art in general. Every chapter is pregnant with interesting and potent facts.

Local Notes.

The last number of the College Alumnus was a model in every respect.

The State Y. W. C. A. convention will be held November 18, at Winfield, Kan.

Prof. W. A. McKeever went to Oswego one day last week to address the city schools.

The new addition to the library reading-room has received its rubber carpet and reading tables. It is a fine room for its purpose.

The lecture course committee is trying to secure John Phillip Sousa, the well-known band leader and composer, to appear on the lecture course.

The Manhattan Poultry Association meets to-day (Saturday) in Smith's real-estate office, for electing officers and considering steps for an exhibition.

The Kansas State Agricultural College Alumni Association of Topeka met last night (Friday) with Miss Maude Currie, 904 Monroe street.—*Topeka Capital*.

Mrs. Van Zile and Miss Becker went to Edwardsville to-day (Saturday) to address the Missouri Valley Horticultural Society, which has held meetings there annually for the last half-dozen years.

While in Chicago recently the local editor ran against John U. Higinbotham, '86. He looked bright and prosperous and told us that he was treasurer of the National Biscuit Company, of the great metropolis on Lake Michigan.

The College Glee Club was reorganized last week with bright prospects for a successful season. Several new voices have been added to the club of last year and steady practice will begin at once. If the College authorities permit, it is the intention of the club to arrange for a concert tour later in the year.

L. L. Dougan, junior in the architecture course two years ago, sends a bundle of blue-prints from Tulsa, Okla., where he is practicing architecture. The drawings are for a three-story business block, of stone and brick, that is now being erected in that city. The beautiful drafts show that Mr. Dougan has found his profession, and is rapidly climbing the ladder of fame. The graphic work of the different plates is simply perfect.

The College Extension Department held twenty-eight farmers' institutes during the first two weeks of October. Mr. Crabtree and Miss Brown spoke at ten places in southeastern Kansas, Mr. Hinman and Mr. Holsinger spoke at nine places in the east central part of the State, and Mr. Wheeler and Mr. Gearhart spoke at nine places in the north central part. President Waters and Mrs. Van Zile assisted in the Wakefield institute on Friday of this week. All speakers report fair attendances and a good deal of interest.

Prof. H. F. Roberts gave an address last week before the Topeka Federation of Women's clubs on the subject of beautifying the city by means of plants, trees, and shrubs. The federation has started out on a campaign to beautify the city in this way.

The College team lost Saturday's game with Missouri at Columbia largely on account of penalties imposed for holding and rough play. They played an aggressive and handsome game, but penalties at inopportune times prevented them from scoring. The game stood, Missouri University 3, Kansas College 0.

The following is the directory of student organizations for the fall term, 1909:

Webster Society.—President, A. J. Ostlund; vice-president, B. D. Jeffs; secretary, Geo. Thatcher. Meets Saturday, at 7:30 p. m., in South Society Hall.

Alpha Beta Society.—President, Maybeth Robison; vice-president, D. C. Bascom; secretary, Harlan Deaver. Meets Saturday, at 2:45 p. m., in South Society Hall.

Hamilton Society.—President, Ed. Dearborn; vice-president, W. N. Osborne; secretary, Ray Wells. Meets Saturday, at 7:30 p. m., in North Society Hall.

Eurodelphian Society.—President, Mattie Kirk; vice-president, Rena Faubion; secretary, Florine Fate. Meets Saturday, at 2:45 p. m., in West Society Hall.

Ionian Society.—President, Christine Heim; vice-president, Ruth Kellogg; secretary, DeNell Lyon. Meets Saturday, at 2:45 p. m., in North Society Hall.

Franklin Society.—President, Wm. Droge; vice-president, Gladys Wenkheimer; secretary, Reba Ellison. Meets Saturday nights.

Athenian Society.—President, Wilbur Davison; vice-president, L. J. Folsom; secretary, L. B. Blizzard. Meets Saturday, at 7:30, in Room F 53.

Boys' Rooters Club.—President, Lou Aicher; vice-president, W. P. Shuler; secretary, Roy Johnson; treasurer, Ray Laffin. Meets at call of president.

Girls' Rooters Club.—President, Carrie Gates; vice-president Mary Turner; secretary, Winona Miller; treasurer, Nell Hickok.

Students' Herald Publishing Company.—President, E. H. Dearborn; vice-president, J. F. Marron; secretary, Grace Shelley. Meets at call of president.

Students' Coöperative Association.—President, O. W. Weaver; secretary, Karl Musser. Meets at call of president.

College Glee Club.—President, A. Endacott; secretary, J. R. Carnahan; treasurer, G. E. Foresman. Meets Wednesday at the seventh hour.

Lecture Course Committee.—Chairman, A. Endacott; secretary, Jennie Williams; treasurer, W. H. Goldsmith. Meets at call of chairman.

The new line of the Manhattan Street-car Company is completed from the Rock Island depot to the Athletic park and a large force of men are laying track on Vattier street between the park and the main entrance to the campus. Manager West, of the company, thinks of reaching the campus with this line before the last of the month.

This college year at K. S. A. C. will see the first class graduate from the specialized courses in agriculture. Heretofore there has been but one agricultural course for all students, no matter whether they were interested in dairying, corn and wheat growing, or horticulture. With the dividing of the old course into the specialized courses of agronomy, animal husbandry, horticulture, forestry, and dairying, a much greater interest is being taken and a far larger per cent of the students enrolled are in these courses than were in the single course before; in fact, in any of the five courses there are now as many students enrolled as ever graduated in one year in the old agricultural course. One of the most popular of the new courses seems to be that of dairying. Of the present sophomore class, ninety-three are dairy men, which is an increase of thirty over last year, when the specialized courses were first put into operation. To the new students especially the specialized courses look good, and the matriculation records will show that the proportion of new students in these courses is far greater than those in the engineering courses as compared with former years.—Nationalist.

Alumni and Former Students.

E. W. Cudney, '07, and Miss Carrie Hager, of Belpre, Kan., were married Wednesday, October 6. They are at home on Mr. Cudney's farm south of Belpre.

Raymond W. Brink, '08, has been elected to a position as teacher of mathematics in the State Preparatory School of the University of Idaho, and his address is 604 B street, Moscow, Ida.

Changes of address: W. D. Davis, '04, 410 Madison street, Topeka, Kan.; H. M. Chandler, '03, care of Honolulu Iron Works, Honolulu, Hawaii; Mrs. Ida (Quinby) Gardiner, '86, 610 W. Springfield Avenue, Champaign, Ill.; V. L. Cory, '04, care of Experimental Farm, Amarillo, Texas; Mrs. Effie (Gilstrap) Frazier Melton, '92, Hamilton, Mont.; Margaret H. Haggart, '05, 1632 Buchanan street, Topeka, Kan.; J. G. Savage, '04, 529 E street, San Bernardino, Cal; A. D. Stoddard, '06, 610 West 17th street, Kansas City, Mo.; Mrs. Ivy (Harner) Selvidge, '93, Thilley Avenue, Columbia, Mo.; Mrs. Kate (Robertson) White, '05, Burlington, Kan.; W. C. Howard, '77, Brentwood, Cal.; R. B. Mullen, '02, care of University Station, Seattle, Wash.; C. G. Elling, '04, Station Clara, Province Constancia, Cuba; Fred VanDorp, '05, 1618 Central Park Avenue, Topeka, Kan.; Clara Pancake, '03, 60 E. Penn street, Germantown, Philadelphia, Pa.; L. B. Bender, '04, Charleston, Wash.

THE INDUSTRIALIST.

Board of Instruction (concluded).

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Miss Ina E. Holroyd, B. S. (K. S. A. C.)
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Miss Kate Tinkey Assistant Librarian
Miss Kate Tinkey Assistant Librarian Earl N. Rodell, B.S. (K.S.A.C) Assistant in Printing Chas. Yost Assistant in Heat and Power Department
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Earle B. Milliard
I T Parker
F. C. Mainzar M. A. (Olivet)
Assistant in German
E. G. Meinzer, M. A. (Olivet) Massistant in German Hugh Oliver Miss Charlaine Furley, B. A. (Fairmount) Miss Jessie Reynolds, A. B. (U. of K.) Assistant in Heat and Power Department Assistant in English Miss Jessie Reynolds, A. B. (U. of K.) Assistant in History
Miss Charlaine Furley, B. A. (Fairmount)
Miss Jessie Reynolds, A.B. (U. of K.)
William C. Lane, B. S. (K. S. A. C.)
William C. Lane, B. S. (K. S. A. C.) Miss Flora C. Knight, A. B. (Uni. of Wyoming) Miss Flora C. Knight, A. B. (Uni. of Wyoming) Miss Grace H. Woodward (Boston School of D. S.) Assistant in Electrical Engineering Assistant in English Miss Grace H. Woodward (Boston School of D. S.) Assistant in Domestic Science
Miss Grace H Woodward (Roston School of D. S.) Assistant in Domestic Science
Miss Margaret A Mode (I/C N)
Miss Margaret A. Mack (R. S. N.)
Miss Margaret A. Mack (K.S.N.) S. W. McGarrah, M. A. (Grove City College) Assistant in Mathematics
C. A. Arthur Utt, M. S. (Cornell College) Miss Florence Warner, A.B. (Illinois University) Assistant in Mathematics
Miss Florence Warner, A.B. (Illinois University)
Miss Anna Gordon, A.B. (Iowa College)
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Harrison E. Forter, B.S. (R. S. A. C.)
Harrison E. Porter, B.S. (K.S.A.C.) J. B. Parker, M. A. (Ohio State University) Assistant in Domestic Science Assistant in Mathematics Assistant in Entomology
Allen G. Philips, B. S. (K.S. A.C.)
Miss Gertrude Cannon, Bethany Col. and Oberlin Conservatory Assistant in Music
Miss Bertha Bisby Assistant in Mathematics
Fred M Haves D V M (K S A C)
Miss Bertha Bisby
Miss Belief both Political Chicago University
L. E. Petty, A. B. (Wabash College) Jules C. Cunningham, B.S. (K. S. A. C.) Assistant in Mathematics Jules C. Cunningham, B.S. (K. S. A. C.) Assistant in Horticulture
Jules C. Cunningham, B.S. (K. S. A. C.)
Miss Amy Allen B.S. (K.S. A.C.)
Miss Amy Allen, B. S. (K. S. A. C.). John E. Smith, B. S. (Oregon Ag. Col.). Assistant in Domestic Science Miss Amy Allen, B. S. (Oregon Ag. Col.) Assistant in Botany R. C. Wiley B. S. (Oklahoma A. & M. College)
D. C. Wiley B. C. (Oldbarns A. G. College) A. G. College Colle
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C. E. Griffin, M S. (U. of Mich)
C. W. Nash, B.S. (Iowa State)
Chas, Dorvland, B.S. (K.S. A.C.)
R. C. Thompson R. S. (K. S. A. C.)
P. Wilson D. V. M. (I. C. A. C.) Assistant in Chemistry
Misc Holon Hype B.S. A. C. Assistant in Bacteriology
C. E. Grinn, M. S. (U. of Mich). C. W. Nash, B. S. (Iowa State). Chas. Doryland, B. S. (K. S. A. C.) R. C. Thompson, B. S. (K. S. A. C.) R. H. Wilson, D. V. M. (K. S. A. C.) Miss Helen Huse, B. S. (K. S. A. C.) Miss Helen Huse, B. S. (K. S. A. C.) Assistant in Domestic Science Assistant in Domestic Science Assistant in Domestic Science
E. F. Kubin, D.V.M. (K. S. A. C.)
A. B. Nystrom, B. S. (K. S. A. C.) Assistant in Dairy Husbandry
A. Miyawaki, M. S. (K. S. A. C.)
Geo. C. Wheeler, B.S. (K.S. A.C.) Farm Management, Farmone's Institute Descripting
E. F. Kubin, D.V.M. (K. S. A. C.) A. B. Nystrom, B. S. (K. S. A. C.) A. Miyawaki, M. S. (K. S. A. C.) Geo. C. Wheeler, B. S. (K. S. A. C.) C. V. Holsinger, B. S. (K. S. A. C.) Farm Management, Farmers' Institute Department P. E. Crabtree Farm Management, Farmers' Institute Department Miss Frances L. Brown, B. S. (K. S. A. C.) Miss Frances L. Brown, B. S. (K. S. A. C.) Dairying, Farmers' Institute Department C. H. Hinman, B. S. Dairying, Farmers' Institute Department Dairying, Farmers' Institute Department C. H. Hinman, B. S. Miss Frances L. Brown, B. S. (K. S. A. C.) Dairying, Farmers' Institute Department C. H. Highway Engr., Farmers' Institute Department Dairying, Farmers' Institute Dairying, Farmers' Dairying, Farmers' Institute Dairying, Farmers' Dairying, Farmer
P. C. S. A. C
Miss Flander F. B. C. Farm Management, Farmers' Institute Department
Miss Frances L. Brown, B. S. (K. S. A. C.). Domestic Science, Farmers' Institute Department
C. H. Hinman, B.S Dairving, Farmers' Institute Department
W. S. Gearhart, B. S. in C. E. (U. of Mo.) Highway Engr. Farmers' Institute Department
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T C Patterson P S (II of Minn)
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Kansas State Agricultural College Manhattan, Kansas



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THE INDUSTRIALIST.

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(Board of Instruction concluded on last page.)

THE INDUSTRIALIST

Vol. 36. Manhattan, Kan., October 23, 1909.

No. 4

How the College is Benefiting the State.

At the request of His Excellency, Gov. W. R. Stubbs, President Waters has prepared the following statements concerning the direct benefits of the work of the College to the people of Kansas. Of course, in such a statement as this only the larger benefits and those which are most direct and easiest to characterize could receive mention. As pointed out by the President, such a statement does not take into consideration the really most important work of the College, namely, the giving of the young men and young women of Kansas a thoroughly sound and useful education. This is the largest and most permanent service which the College renders to the people. Letters to the Governor supplying this information are as follows:

Honorable W. R. Stubbs, Topeka, Kansas.

SIR: Complying with your request for information as to the way in which the Kansas State Agricultural College has benefited and is benefiting the people of the State, I beg to submit the following:

You realize, of course, that it is very difficult, indeed, to estimate the value of the work of an institution of this sort in dollars and cents or to measure the influence in a given year of work which will bear fruit for generations to come.

The College has studied the varieties of wheats best adapted to Kansas conditions, and has distributed to the farmers of the State more than 10,000 bushels of the most productive strains as seed. In many instances the growers report an increase of as much as 50 per cent in the yield from this improved seed over the ordinary seed grown by the farmer. On the College farm an increased profit of more than \$20 per acre in three years was shown from such seed. A conservative estimate, based on reports from nearly all of the leading wheat-growing counties of the State, is that the

farmers who are using the College-bred wheat are securing an increased yield of more than five bushels per acre over that obtained from the ordinary sorts. In round numbers, 7,000,000 acres were grown in wheat in the State last year. On this basis there would have been an increased yield of from 30,000,000 to 35,000,000 bushels, had every farmer been using seed wheat of the quality produced and disseminated by the College instead of the unimproved common sorts in ordinary use. The College bred wheat is already widely enough distributed over the State that the increased yield from its use last year amounted to not less than 4,000,000 bushels, worth, at the market price, nearly twice as much as the State has appropriated to the College in the forty-seven years of its existence.

In the matter of the preparation of the land for wheat sowing, it has been shown, by experiments at the College and by demonstrations in different parts of the State, that the wheat yield may be doubled in the average season, when compared with the yield from the less rational method usually employed by the farmer.

Likewise in the matter of soil preparation for corn, the results of experiments conducted at the College for six consecutive years show that double listing, as compared with the ordinary practice of no cultivation previous to planting, has given a yearly average increase of over five bushels per acre. The corn area of the State is slightly more than 7,000,000 acres, and it is easy to see that this improvement in the method of growing the crop would add 25,000,000 to 35,000,000 bushels to the yield of the State. Already enough farmers have adopted this practice, through the influence of publications of the College and through lectures by representatives of the institution at the farmers' institutes, to allow us to estimate that no less than 4,000,000 bushels will by this means be added to the corn crop of Kansas next year.

The wheat crop harvested in the summer of 1908 was 9,500,000 bushels short, on account of the injury done by the Hessian fly. The College, through its investigations, has developed an entirely trustworthy and simple method of preventing injury by this insect. Had the farmers of Kansas, therefore, in the fall of 1907, when they seeded the crop they harvested in 1908, been in possession of the information which the College has since imparted, they would have been approximately 9,000,000 bushels of wheat richer. This saving alone would have been worth to the State, in round numbers, \$7,000,000, or something more than three times as much as the Kansas State Agricultural College has cost the taxpayers since it was founded.

Through investigation made at this College, the great pest of the western half of the State, the prairie-dog, has been practically eliminated as an economic factor in agriculture.

In the last four years the alfalfa in Kansas has increased almost four-fold, amounting now to about one million acres. The subject has been placed on the program of every farmers' institute held in the State during the last four years. These institutes have been attended by some 156,000 farmers. The value of alfalfa was discussed, as were also such questions as methods of seeding, harvesting and storing hay, etc. The College, in cooperation with the Santa Fé railroad, conducted an "alfalfa train" over the company's lines in southeastern Kansas, in June, 1907, making seventythree stops, lectures on the growing of alfalfa were delivered to nearly seven thousand farmers, and to each farmer was handed a small pamphlet with specific recommendations. The Experiment Station published, two years ago, the most comprehensive bulletin on alfalfa ever published, and mailed copies to thirty thousand farmers in Kansas.

The influence of the work of Secretary Coburn and of the College has resulted in making Kansas the leading alfalfa state of the Union, and the greatest producer of alfalfa in the world.

A systematic campaign for more corn from fewer acres was begun a number of years ago, and since that time more than five hundred lectures on this subject have been given by College speakers at farmers' institutes. Annually nearly five thousand boys have been in the "corn contest," growing corn for prizes. For these boys each year valuable bulletins have been printed, and thousands of letters have been written, with advice as to breeding better corn, seeking to educate those boys in the science of growing better corn. Well-bred seed-corn has been distributed to every county in Kansas.

Four years ago the appropriation for farmers' institutes was \$2000 a year, or \$4000 for the biennium. Two years ago the appropriation for the two-years period was \$10,500; last winter the appropriation was \$52,500. Four years ago about fifty institutes a year had been the average, with only thirteen regularly organized institutes, with a membership of 10,000 farmers, heads of families. Then the College employed no one especially to do institute work, sending out the regular professors, to the neglect of their classes. Now it employs a superintendent and seven assistants, with the necessary clerks and stenographers, and this department has in the last few years, published and mailed to the farmers of Kansas about 200,000 bulletins, and to the rural teachers over 100,000

copies. Demonstration work is now being conducted on twelve "county farms."

The College is now manufacturing serum for the prevention of the spread of cholera among hogs, and by this means, it is expected, this disease will be successfully controlled and the present loss of from half a million to three-quarters of a million dollars a year prevented.

The foregoing, of course, takes no account of the really most important work of the College, viz., the education of the Kansas boys and girls. At this institution a larger number of students have studied scientific agriculture than at any other institution in America, with one possible exception. The institution has made its impression upon agriculture and the industries to the State. Of more importance than increased yields, it has made its impress upon the citizenship and upon the homes of the State. Here is to be found the largest domestic science department in the world. It stands for better homes and for the development of a stronger race of people.

This all may seem like boasting, but the writer has had no part in the great achievements of the institution, and he may speak of them in this way without being immodest and really as one from the outside estimating its worth and work.

Yours very sincerely,

H. J. WATERS, President.

The following letter from President Waters shows a comparison of the cost per student in the Kansas Agricultural College and the colleges of other states:

Manhattan, Kan., Oct. 13, 1909.

Hon. W. R. Stubbs, Topeka, Kan.

Sir: I have your request for information as to the cost of maintenance of the Kansas State Agricultural College, in comparison with similar institutions in other states. Perhaps the easiest way to answer this question is to make an exhibit of the average annual cost of the institution for each student enrolled. In the following table will be found such data for a number of the leading agricultural colleges of the country, and a number of the leading universities with agricultural colleges attached.

These figures are computed from the official data contained in the 1909 report of the United States commissioner of education, and are based on the total income from all sources—state, national, interest on indowments for maintenance and support, but exclusive of appropriations for new buildings and permanent improvements:

	Cost per student.
University of California	. \$306.00
Cornell University	. 296.00
Michigan Agricultural College	. 273.00
University of Wisconsin	
Colorado Agricultural College	. 208.00
University of Ohio	
University of Missouri	. 192.00
Purdue University	. 186.00
University of Michigan	. 177.00
University of Nebraska	. 174.00
University of Illinois	. 171.00
University of Minnesota	. 167.00
University of Iowa	. 150.00
Oklahoma Agricultural College	. 143.00
Iowa Agricultural College	. 140.00
University of Kansas	. 132.00
University of Indiana	. 108.00
Kansas State Agricultural College	. 102.00

Very sincerely yours,

H. J. WATERS, President.

A "Good Roads" Meeting.

Members of the board of county commissioners, the Manhattan city council, several of the township officers of the county, several road overseers, the highway engineers of the Agricultural College, the good roads committee of the Manhattan Commercial Club and several of the county officers accepted the invitation of the Manhattan Motor Club to a dinner, after which the party retired to the Riley county court-house to talk roads.

Mr. Davies, who acted as chairman of the meeting, told the guests what they were there for, and Mayor Long, in behalf of the town, bid them welcome. The response to Mayor Long's address of welcome was made by Pres. H. J. Waters, who said that the most important phase of the good-roads question was not that of cheapening the cost of transporting farm produce to market, but that of making the country a good place to live in. The question of how to keep the best people from leaving the farms, said President Waters, is solved by good roads. President Waters thinks the federal government and the state should aid in the work of road making.

President Waters was followed by Hon. Henry W. McAfee, of To-

peka, president of the State Good Roads Association, who had figures on what bad roads are costing the country. According to President McAfee the cost of bad roads runs into appalling figures, and the money lost through them would pay for miles of permanent rock roads.

The principal address of the meeting was made by Arthur C. Jackson, president of the National Good Roads Association, who said that the national government should spend some of the money that is now being invested in battleships and river improvements on public highways. Later this idea was embodied in a resolution passed by the meeting.

Judge S. Kimble, who followed President Jackson, said that the people of Riley county would be riding in mud a good many years if they waited for national aid in road building instead of taking off their coats and doing something.

To the Motor Club of Manhattan belongs the credit for bringing out a big crowd to hear the good roads talks, and should this organization keep up its present gait there will be good roads running out of Manhattan in every direction years before the government is ready to spend anything for roads. In addition to paying for the dinner the club furnished every man who attended the meeting with a badge bearing the legend, "I am for good roads," and every member had a big banner tied across the radiator of his ear bearing the words, "Good Roads."

No effort was made to establish a local good roads association here as an effective organization of this kind is already in existence here.

College Cattle Bring Honors to Kansas.

The fat steers of the Kansas State Agricultural College were again remarkably successful in the show ring at the American Royal at Kansas City this week, having won a larger number of champion, first and second prizes than the fat steers exhibited by any other college or by any private breeder.

The pure-bred Angus steer, King Ellsworth, again won championship honors, thus sustaining the reputation he established at St. Joseph, when he was placed first among all the Angus steers on exhibition.

The Galloway steer, Kansas Jim, took the highest honors in his class at St. Joseph, and was likewise made champion in his class at the Royal.

First and second prizes were again awarded to the College Angus in the yearling class, as at the Interstate, and in the two-year-old class the College did better than at St. Joseph, winning first and second awards. At the Interstate they won first and third.

The Shorthorn calf which at St. Joseph was made grand champion of all the breeds won first place at the Royal.

The lots of fat barrows were shown, one under 200 pounds and the other over 200 pounds, and captured first prizes in both classes.

Altogether, two championships, eight first prizes, four second prizes and one third prize were won by the College cattle and hogs. The final battle for American honors is to be at the International, at Chicago, the first week in December. It is expected that these cattle will win new laurels for the State and College at this great exposition.

Word From Arizona.

Professor TenEyck has a letter from Mr. E. Dana Trout, who was for several years secretary and stenographer in the Agronomy Department office, but resigned last summer to accept the position of secretary of the Arizona Experiment Station, at Tucson, Ariz. Among other things he writes:

"I am getting along nicely with my work here; find the climate very pleasant, especially at this season of the year. . . . The scenery around Tucson is fine. We can see the mountain peaks 125 miles south in Old Mexico. Mrs. Trout and I recently visited the old San Xavier Mission, about ten miles from Tucson. This Mission was founded some 350 years ago by the Jesuit Fathers. We saw many interesting things. The Indians of that early day dressed the images in the church in Indian costumes, and these costumes are still used. The Virgin Mary is dressed in hoop skirts and other things to match. The mission is built of adobe and covered with white plaster, and may be seen for miles. The church is surrounded by a large court, also made of adobe. The Indians are still taught in this mission."

He also states with reference to Professor Freeman, who recently resigned his position here to accept a professorship at Tucson, that "the professor is well pleased with his work." For the present most of Professor Freeman's time is spent at the station farm at Phoenix, in the Salt River valley, which is a fine fruit and farming country.

Inaugural of President Waters.

The program for the formal inauguration of Prof. Henry Jackson Waters as President of the Kansas State Agricultural College has been completed and the date decided upon. The inaugural will be held Thursday, November 11, in the Auditorium. The occasion will bring to the College more distinguished men than have been here for many years. An all-day vacation will be declared for the students.

The program has been divided into three parts—morning, afternoon, and evening. In the morning the presidents of the State schools and other prominent educators will offer greetings to the new President of the Kansas State Agricultural College. In the afternoon the formal installation of President Waters will take place, and in the evening a reception will be given by the Regents, President and Faculty of the College to the visitors, teachers, students, and townspeople, in the Domestic Science and Art Hall.

The program is as follows:

FORENOON SESSION, 9:30-GOV. W. R. STUBBS PRESIDING.

Music.

Invocation.

Music.

Greetings from the University of Kansas.—Chancellor Frank Strong.

Greetings from the Normal School. - President Hill.

Greetings from the Public Schools of the State. - Supt. E. T. Fairchild.

Greetings from the Farmers of Kansas.—Hon. F. D. Coburn.

Music.

Greetings from the Colleges and Universities at large.—Pres. A. R. Hill, or some representative of the University of Missouri.

The Duty of the State and Nation to Agriculture and the Industries.—Hon. Chas. F. Scott, Chairman Committee on Agriculture.

Luncheon, in Domestic Science and Art Hall, to distinguished guests.

AFTERNOON SESSION, 2:00.—HON. W. E. BLACKBURN, PRESIDENT BOARD OF REGENTS, PRESIDING.

Music.

Invocation.

Music.

The Duty of the State to Higher Education.—Gov. W. R. Stubbs.

Formal Installation of Pres. Henry Jackson Waters.

Inaugural Address by President Waters.

Conferring of Honorary Degrees, by the President.

Evening, 8:30 to 10:30.

Reception by Regents, President and Faculty to visitors, teachers, students and townspeople, in Domestic Science and Art Hall.

Local Notes.

The State Journal says Coaches Ahearn and Kennedy are the greatest in Kansas.

The Kansas City Star of Wednesday published a good picture of Gingery, the Aggies' tackle.

The assistants of the College will give an informal Hallowe'en party to invited guests at the Commercial Club Hall, Saturday evening, October 30.

The gate receipts of the game with the State University last Saturday in the Manhattan field aggregated \$1450. Of this amount the University got half.

The Kansas Aggies have gained a reputation in the West equal to that of Ames, and the time isn't far distant when all the great western schools will first have to reckon with the Kansas Aggies before they can claim any championship honors.—*Republic*.

Last Monday evening the Alpha Beta Literary Society opened the social season of the literary societies by giving a banquet in honor of the forty-first anniversary of the society. All of the resident alumni were invited. The society was organized in 1868.

Professor Ten Eyck is a specialist in crops, but appears to be making a success also with live stock on his own account. His hogs topped the market last Monday in Kansas City, selling at \$7.80. These hogs were pure Duroc Jerseys, about a year old, and averaged 250 pounds, Kansas City weight.

The Manhattan Poultry Association met Saturday, October 16, and made plans for this winter's poultry show, which will be held the first week in January. This year the association will have three judges to score the birds on exhibition. It will be the only poultry show in the State, excepting the State show, to hire judges. It will be the largest poultry show this winter in the northern part of Kansas, the State show, which will be held at Wichita, being the only larger one. Officers elected for the year were: Prof. G. C. Wheeler, president; Prof. Theo. Scheffer, vicetreasurer and secretary; L. E. Dorwn, superintendent; G. E. Hulse, assistant superintendent.

The College Extension Department is sending out "No 1 of Volume II of Agricultural Education," a 22-page pamphlet entitled "Some Weather Studies." The booklet was prepared by Prof. J. O. Hamilton, of the Physics Department. It treats of a large number of highly interesting subjects, such as the history and work of the United States Weather Bureau, the weather signal service, weather observation, weather factors, solar energy, rains and storms, climate, humidity, weather and the farm, and weather study in the public schools. The pamphlet may be obtained by addressing J. H. Miller, superintendent of the College Extension Department, Kansas State Agricultural College, Manhattan.

George A. Westphalinger, a retired United States Army band master, has been engaged as teacher of the Kansas State Agricultural College band and assumed his duties this week. Mr. Westphalinger was once stationed at Fort Riley as band master for the Seventh Cavalry and had the reputation of being the best band master in the service. He has been retired about a year and comes to Manhattan from San Francisco.

Arthur C. Jackson, president of the National Good Roads Association, who delivered an address at the good roads meeting in the court-house Wednesday, gave a talk to the student body, at the Thursday morning chapel exercises, that proved very instructive and interesting. He urged the students to get into the spirit of the good roads movement, as well as their elders, and advised the forming of an organization among the student body to boost the cause of good roads.

The big game with the State University last Saturday in the Manhattan Athletic Park was not a lucky one for our boys. The score stood 5 to 3 at the close of the afternoon, but the whole immense crowd that witnessed the royal battle were unanimous that the Aggies were after all the best players and that there could be no criticism of their work. They played a scientific and aggressive game from beginning to end and three-fourths of the time the ball was in K. U. territory.

This office has received a valuable pamphlet by Dr. T. J. Headlee, of the Kansas State Agricultural College, "A Studyof Insects." This is sent out by the Extension Department of the College and is now being mailed to all the rural teachers of the State, and will be mailed free to other teachers on application, or to anyone else who may be interested. If the loss in farm crops in Kansas from insect pests could amount in one year to \$15,000,000, as was estimated in 1908, it is time farmers and their children were trying to find out means of preventing such losses. Doctor Headlee gives data and remedies that he contends are practical and may be adopted by any farmer. The teachers of this county will do well to read this pamphlet and read it to the schools. School officers should see that it is used.—Nationalist.

Prof. J. C. Kendall, Dean Ed. H. Webster, Asst. Tomi Miyawaki and student Roy Johnson, have gone to Milwaukee, Wis., to attend the National Dairy Show and to bring back a number of cows for the College dairy herd. This show is the biggest of its kind in the country and the finest of dairy stock will be on exhibition. Professor Kendall stated a few days ago that he hoped to be able to secure at least two car-loads of dairy cows to add to the herd. It is the aim of the Dairy Department to build up a herd of seventy cows of the finest stock obtainable. These will be of four types, Jersey, Guernsey, Ayrshire, and Holstein, which are the four leading breeds for dairy purposes. When Professor Kendall finally has his plans realized, the College will have as fine a dairy herd as can be found in the Middle West.

The Debating Council met last week, organized, and took up the negotiations for a series of debates with Fairmount College, where they had stopped last spring for the want of a properly authorized organization to take hold of things. This is a council composed of the various literary societies, but represented by two members from each. Preliminary debates will be begun in the near future. By lot, the preliminaries will begin as follows, in each case the first-named society debating the affirmative side of the question: Athenian vs. Alpha Beta; Eurodelphian vs. Webster; Hamilton vs. Ionian; Franklin remaining to enter second preliminaries. The debates will be held on the same evening. The officers are: President, O. W. Weaver; secretary, Miss Philipps; treasurer, not chosen.—Students' Herald.

Among our visitors last Friday was one of the most prominent "makers of the College," ex-Prof. Milan L. Ward. He had attended the annual conference of the Baptist church of Kansas, at Junction City, during the week and was on his way home to Ottawa. The old gentleman was professor of mathematics here from 1873 to 1883 and had occupied the executive chair as Acting President in '78-'79. He reported Ottawa University, where he had been a member of the faculty for nearly a quarter of a century, as highly prosperous. After looking over the campus of the College he visited Prof. J. D. Walters, the only one of his old colleagues still in On December 24 Professor Ward will be 80 years old, his chair. but the veteran educator carries his four score years with ease; in fact, he appears as bright and vigorous as a man of sixty. spring he and his good wife, who was also at one time a member of the Faculty of this College, celebrated the half-century anniversarv of their wedded life—an event that is very rare in the teacher's profession.

The Agronomy Department made a large exhibit at the recent Interstate fair held at Kansas City. The exhibit was arranged by Mr. H. J. Bowers, '10, a student assistant in the department. The exhibit consisted of a large display of grains and grasses in head and samples of ear corn and threshed grain; also samples of roots of plants, including an exhibit of the breeding work of wheat which is being carried on by the Agronomy Department. crowded for space, Mr. Bowers succeeded in making a very creditable display, which was very much admired and highly spoken of. Visitors seemed to take a great deal of interest in this display and in the work of the Agricultural College. Hundreds of circulars. catalogues and press bulletins were carried away by many who seemed to be especially interested. The actual expense of installing this exhibit was paid by the Interstate Fair Association. The expense of preparing the material, etc., was borne by the Agronomy Department, but the whole College profits by the ad-There is little question but that these exhibits vertisement. are valuable advertising for the Agricultural College, and there is considerable labor and expense attached to the selection and preparation of such exhibition material for which the departments

making these advertising exhibits usually get little credit. Other members of the Agronomy Department who attended the Interstate fair and had charge of the exhibit for some time were Mr. Floyd Howard, farm foreman, and Mr. Bruce Wilson, '08, special assistant in crop breeding. Mr. Howard acted as judge of the crop exhibits made by farmers, together with Prof. F. H. Miller, of the University of Missouri. Mr. Wilson was in charge of the exhibit for several days and was kept busy explaining the work of the department and the College to a large number of interested visitors.

Mr. J. R. Jenness, the recently elected assistant in the Department of Physics, was born on a farm near Cherry Point, in Edgar county, Illinois. His father, D. Jenness, had come to Illinois from New Hampshire when a young man, while his mother's people were from Virginia. After finishing the ninth grade at the village school, he spent a year studying literature and history under his father's sister, Miss E. L. Jenness, a retired teacher. then taught a year in a country school, and the next fall he went to college-Denison University, at Granville, Ohio-where he finished his academic work, a course in science, and some postgraduate work. In 1906 he took a course in physics, as the major study, in the same institution and was given the degree of B. S. The following two years he taught natural science in Lenox College, Hopkinton, Iowa, and in the fall of 1908 he went to the State University of Kentucky as assistant in physics, where he remained till this summer. Mr. Jenness comes to us well recommended and has taken a firm hold of his new work in the Physics Department.

It is too bad that the Missouri team didn't play at Manhattan, Kan. Had the Tigers met the Kansas "Aggies" on the "Aggies" gridiron the Missourians would have witnessed an example of the college spirit which Roper is trying to introduce at the Missouri school. Out at Manhattan they have the "spirit" right, in big quantities and of the blue ribbon quality. The writer was in Manhattan last Saturday for the K. U.-"Aggies" game, and he saw more college spirit there that day than he had ever seen At 11 o'clock in the morning a big mass meeting was held in the College Auditorium. Some eighteen hundred students were there and listened to short talks from Coach "Mike" Ahearn and his assistants. Yells and songs were practiced. For an hour the students chopped things up. That mass meeting was just a starter. Half an hour before the game started the "Girls' Rooter Club" appeared on the field. Headed by the student band, two hundred girls, each one dressed in white, hatless, marched slowly around the outside of the gridiron. The leader of the club carried a large K. S. A. C. banner and led a huge black dog blanketed in the colors of the Manhattan school. Each girl waved a blue and white pennant above her head. It was an inspiring scene and the big crowd stood with hats off and cheered as the girls passed down either side of the gridiron. The girls

sat in a section of seats in the center of the "Aggie" side of the gridiron, and on each side of them the boys of the school were banked. And the volume of noise those Manhattan students did turn loose! It was great. During the intermission between the halves five hundred boys marched on to the field of play and formed a giant "K." Each boy had a megaphone and that "Big K" made as much noise as a dozen calliopes would turn adrift. The referee sounded his whistle for the second half and the "K" Farmers turned and beat a hasty retreat for their bleachers. And there on the ground where they had stood was seen a giant "K" done in confetti. The wind soon picked up the colored bits of paper and carried them whirlwinding down the gridiron. 'Aggie' team went down to defeat, but the defeat was far from inglorious, and the "Aggie" rooters were storming for their heroes as gaily and as noisily when the game broke up as when the battle started. Missouri could learn a lot about college spirit from those Manhattan students.—Kansas City Star.

Alumni and Former Students.

Changes of address: L. E. Hazen, '06, and Ella V. (Brooks) Hazen, '09, R. F. D. No. 3, Centralia, Kan.; Vernon Matthews, '04, Carney, Mich.; Cecile Allentharp, '07, Box 487, Laramie, Wyo.; Dora (Thompson) Winter, '95, Route 6, Rosedale, Kan.; Guy R. Davis, '05, Edmonton, Alberta, Canada; W. L. Shelly, '09, Odessa, Mo.; Erma Locke, '01, Rockford, Wash.

The home of Dr. A. T. Kinsley, '99, and Anna (Smith) Kinsley, '01, was the meeting place of a number of College friends recently when Alice M. Melton, '98, was a guest at their home. Grace Dille, '97, Ary (Johnson) Butterfield and Cassie Dille, '98, Nannie Williams and A. B. Dille, '99, and Mary Manchester, short course '08, were present Sunday afternoon, October 17, and many an absent classmate received more than a passing thought.

Through the kindness of C. H. Thompson, '93, we learn the following interesting facts concerning his classmate, Geo. L. Melton: After graduation he returned to his home in Winfield, Kan., and took up work in a business college and the study of commercial law to prepare himself better for work that was unavoidably thrust upon him. While in College he developed a great love for all historical subjects and the goal of his ambition since has been to hold the chair of history in some higher educational institution. With this object in view he spent several years in study and research at the University of Chicago, completing his work there last year with the degree of Doctor of Philosophy. Doctor Melton has recently been elected to the chair of history in the University of Redlands, Redlands, Cal., a school which opens this fall and which with its strong financial backing and very strong corps of instructors promises to become one of the leading factors in education in southern California. He will also serve as librarian."

THE INDUSTRIALIST.

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(Board of Instruction concluded on last page.)

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MANHATTAN, KAN., NOVEMBER 6, 1909.

No. 5

Extracts from Inaugural Address.

Ermest Fox Nichols (Class of 1888, K. S. A. C.), President of Dartmouth College.

THE CURRICULUM.

To attack the curriculum seems to be an easy and rather stimulating task for most reformers, but to grasp its whole significance and deal fairly by it require more thought and pains than many a magazine or newspaper writer is accustomed to give to the things he so often whimsically approves or condemns. To understand the recent history of our colleges, from any point of view, the intellectual development of the world during the past half century must be taken into account as well as the rather lagging response which has come from school and church to its widening demands.

The middle of the last century saw the beginning of several intellectual movements. Natural science got under way earliest by establishing the doctrines of evolution and energy. The bearing of these broad principles soon became as necessary to our modes of thought as they were immediately recognized to be for our material development. To-day there is no branch of knowledge which has not in somewise been extended and enriched by the philosophical bearing of these wide sweeping laws which, at first, were the individual property of natural science. So intimately have they become the guiding principles of all modern constructive thinking, that steer how he will the man in college can not escape their teachings. Although these principles are still most significantly presented in the laboratories in which they arose, the student will as surely find their progeny in philosophy and history, in theology and law.

The progress of half a century in the social sciences (history, economics, sociology, politics) has been of equal importance. Though no such fundamental and far-reaching doctrines as those of evolution and energy have there been discovered, yet social studies have become vital to the interpretation and upbuilding of modern life and service.

What response did our colleges make to this revolution in thought, this sudden widening of intellectual and spiritual horizons, this modern renaissance? For a time practically none, for the curriculum was strongly entrenched in an ancient usage. Something called a "liberal education" was a kind of learned The intellectual atmosphere outside the college grew broader, stronger, freer than in it. Forced by a rising tide, the colleges first made a few grudging and half-hearted concessions, but still held for the most part firmly to their creed. The defenders could always point in unanswerable argument to the men of profound and varied talents who have been trained under their discipline—a discipline which all must freely admit has never been excelled. But times had changed, professional schools and real universities had come into existence in America, and more kinds of preparation were demanded of the college. Modern life in its vastly increased complexity had outgrown the straitened mould of a pedagogical and clerical curriculum.

Finally in an awakened consciousness some colleges made the mistake inevitable after too long waiting, and not only established the newer subjects in numerous courses, but took the headlong plunge and landed in an unbridled elective system.

Under this unhappy system, or lack of system, for every student who gains a distinct advantage by its license several of his less purposeful companions seek and find a path of least resistance, enjoy comfort and ease in following it, and emerge at the other end four years older, but no more capable of service than when they entered. Many another youth neither lazy nor idle, but lacking both rudder and chart, angles diligently in shallow waters, goes no deeper than the introductory course in any department, comes out with many topics for conversation, but no real mental discipline and but little power to think.

During the revolutionary period in our colleges, in which the newer studies took equal place along side the older ones, Dartmouth moved more circumspectly than some of her neighbors. In response to pressure from within and from without required courses were reduced in number and crowded back into freshman year. All other courses were grouped in logical sequences, among which the student had for every useful purpose all the freedom afforded by what I have called the unbridled elective system; but obstacles and hazards which required some serious thought and discipline to surmount were strewn in the path of least resistance. The incomplete angler also was compelled in

some places to go deep enough to get the flavor of several branches of learning and acquire some sort of discipline.

Under this so-called group system, which has taken many forms in different colleges, our education is become liberal in fact as well as in name (the newer studies may be followed for their own sake as well as the older ones), and the college horizon has been vastly widened. The older and newer knowledges now stand on a footing of complete equality of opportunity, our education has caught up with the time and is in harmony with modern needs. Moreover, the framework of the present curriculum is elastic to easily adapt itself to any changed conditions which may later arise.

THE TEACHER.

As with the undergraduate, so with the faculty, many a reformer has singled out the weakest member and has seemingly affixed But has he forgotten that there are mediocre lawyers, physicians, preachers, engineers, business men, all making a living from their various occupations simply because there are not enough men of first-rate ability to supply the world's needs? Teaching can not stand alone but must share the lot of other pro-In a generation the monetary rewards in most occupations have advanced more rapidly than in teaching, where they never have been adequate, and colleges have felt a relative loss. In law, in engineering, in medicine, in business, the average rewards for corresponding successes are roughly double those in teaching. It is safe to say the colleges are getting far more out of their better teachers than they are paying for. Teaching is to many a very attractive career, not because of the leisure for idleness which it is supposed by some to offer but because of its possibilities of service to the wholesome life and highest welfare of The teacher who takes his calling seriously society and the state. and fulfils its high demands spends less time in idleness than his apparently more busy brethren in trade. That he must give many hours to wide-ranging thought and reflection has often misled the public into thinking him an idle dreamer. But dreaming and visions are a part of his business, though the dreamer to be worthy must dream straight and the vision must be clear. much do we not owe to the dreamer, in science, in literature, in art, in religion, to say nothing of his part in those unthought-of benefits, those subtler influences grown up in tradition, influences which have lost or never had a name, which yet continue to inspire

and brighten all our days—visions seen by earlier men whose lives must have seemed idle enough to an auctioneer?

Judged by the higher standards, there are unquestionably a few uncertain and indifferent teachers in our colleges. There always have been. The proportion of men of first-rate ability has improved, but there is need of further improvement. As soon as the public will give the colleges sufficient means to command the

men they want, all cause for criticism will be removed.

We need special knowledge in college teachers, but not specialized men. Whatever the subject, it is the whole man that teaches. While being taught the undergraduate observes the teacher and takes his measure in several well-defined directions: the richness of his knowledge, his enthusiasm for learning, his way of putting things, his sense of humor, and the range of his interests. shrewdly guesses whether or not his instructor would be an agreeable companion, if all restraints were removed and the subject of the day's lesson swept out of mind. The student frequently knows, too, whether or not his instructors are producing scholarly work which competent students elsewhere admire and respect. Nothing gives a teacher more authority and command over the imaginations of his students than a well-earned reputation for fundamental scholarship and research, and nothing so much stimulates the undergraduate's ambition for sound learning and intellectual achievement as sitting at the feet of a master who has traveled the road to discovery. Even as much as a virtuous example breeds virtue in others, so scholarly work breeds scholarship. Presidents and boards of trustees have not always seen the great advantage to a college of retaining a group of strong productive scholars, with an instinct for teaching, on its faculty. these elements enter into the unconscious respect the student feels for his instructor, and increase or lessen a teacher's influence and worth in the college. The driving of men through college is not as reputable as it used to be, and real intellectual and moral leadership in teaching is steadily taking its place. Students now largely choose their courses and instructors, for varying reasons to be sure, but some of them are good. opinion freed from mixed motive and superficial judgment is usually wholesome and sound.

The college in all its relations is the most human and humanizing influence in all our civilization; and year by year its gains in this direction are substantial. Taking the good with the bad, our colleges have never been as well organized and equipped as now, nor have they ever done their work more effectively than they are doing it to-day. Any dissatisfaction with college life does not find its basis in comparisons with earlier years, notwithstanding many find, in such comparisons, partial reason for complaint. We are not quite satisfied with the college, because it does not realize our later ideals of education, not because it falls short of our earlier ones. It is well to have ideals and to have them high, and it is a wholesome sign of intellectual vigor to be impatient at the long distance which separates the way things are done from the way we think they ought to be done. Beyond just measure, however, dissatisfaction paralyzes hopefulness and effort; we must keep clear of pessimism, if we are to go forward.

In twenty years of teaching and observation, I have become convinced of some things connected with teaching as a profession. No teacher can hope to inspire and lead young men to a level of aspiration above that on which he himself lives and does his work. Young men may reach higher levels, but not by his aid. The man in whose mind truth has become formal and passive ought not to teach. What youth needs to see is knowledge in action, moving forward toward some worthy end. In nobody's mind should it be possible to confuse intellectual with ineffectual. Let it not be said:

We teach and teach Until like drumming pedagogues we lose The thought that what we teach has higher ends Than being taught and learned.

It ought to be impossible, even in satire, to say "Those who can, do; those who can't, teach."

The strong teacher must ever have the best of the priest about him in the fervor of his faith in the healing power of truth. Let our teaching be sane, fearless and enthusiastic, and let us not, even in moments of despondency, forget the dignity, the opportunity, the power of our calling. The teacher is the foremost servant of society and the state, for he is moulding their future Sound learning, wisdom and morality are the foundation of all order and progress, and these it is the aim of the college to foster. If we can send into the world a yet larger number of strong young men-men clean in body, clean in mind and large of soul, men as capable of moral as of mental leadership, men with large thoughts beyond selfishness, ideas of leisure beyond idleness, men quick to see the difference between humor and coarseness in a jest-if we can ever and in increasing numbers send out young men of this sort, we need never fear the question, "Can a young man afford the four best years of his life to go to college?" -Science.

Farmers' Institutes.

The following list of institutes has been scheduled from October 1 to December 21. The day, date, place and College speakers are given:

EASTERN CIRCUIT.

Friday, October 1, Hiattville, Crabtree and Hinman.
Saturday, October 2, Walnut. Crabtree and Hinman.
Monday, October 4, Savonburg, Crabtree.
Tuesday and Wednesday, October 5 and 6, Kincaid, Crabtree and Brown.
Thursday, October 7, Louisburg, Crabtree and Brown.
Friday, October 8, Cadmus, Crabtree and Brown.
Saturday, October 9, Farlinville, Crabtree and Brown.
Monday and Tuesday, October 11 and 12, Iola, Crabtree and Brown.
Wednesday, October 13, Colony, Crabtree and Brown.
Thursday, October 14, Waverly, Crabtree and Brown.

EAST CENTRAL CIRCUIT.

Wednesday, October 6, Michigan Valley, Hinman and Holsinger. Thursday, October 7, Quenemo, Hinman and Holsinger. Friday, October 8, Olivet, Hinman and Holsinger. Saturday, October 9, Hartford, Hinman and Holsinger. Monday, October 11, LeRoy, Hinman and Holsinger. Tuesday, October 12, Westphalia, Hinman and Holsinger. Wednesday, October 13, Greeley, Hinman and Holsinger. Thursday, October 14, Rantoul, Hinman and Holsinger. Friday, October 15, Williamsburg, Hinman and Holsinger.

NORTH CENTRAL CIRCUIT.

Wednesday, October 6, Morganville, Wheeler and Conrad.
Thursday, October 7, Greenleaf, Wheeler and Conrad.
Friday, October 8, Marysville, Wheeler and Gearhart.
Saturday, October 9, Hanover, Wheeler and Gearhart.
Monday, October 11, Haddam, Wheeler and Gearhart.
Tuesday, October 12, Scandia, Wheeler and Gearhart.
Wednesday, October 13, Wayne, Wheeler and Gearhart.
Thursday, October 14, Clyde, Wheeler and Gearhart,
Friday and Saturday, October 15 and 16, Wakefield, Wheeler, Gearhart,
Mrs. VanZile, and President Waters.

DAIRY TRAIN.

Monday to Saturday, October 25 to 30, Southeastern Kansas, Webster, Kendall, Miller, and Hinman.

SOUTHEASTERN CIRCUIT.

Monday and Tuesday, October 25 and 26, Tonganoxie, Crabtree, Gearhart, and Kinzer.

Wednesday and Thursday, October 27 and 28, Oskaloosa, Crabtree, Gearhart, and Kinzer.

Friday and Saturday, October 29 and 30, Holton, Crabtree, Gearhart, and Kinzer.

Monday and Tuesday, November 1 and 2, Olathe, Crabtree, Gearhart, and Dickens.

Wednesday and Thursday, November 3 and 4, Paola, Crabtree, Gearhart, and Dickens.

Friday and Saturday, November 5 and 6, Mound City, Crabtree, Gearhart, and Dickens.

Monday and Tuesday, November 8 and 9, Fort Scott, Crabtree, Gearhart, and Dickens.

Wednesday and Thursday, November 10 and 11, Girard, Crabtree, Gearhart, and Holsinger.
Friday and Saturday, November 12 and 13, Columbus, Crabtree, Gearhart,

and Holsinger.

Monday and Tuesday, November 15 and 16, Altamont, Crabtree, Gearhart, and Holsinger.

Wednesday and Thursday, November 17 and 18, Independence, Crabtree, Gearhart, and Holsinger. Friday and Saturday, November 19 and 20, Erie, Crabtree, Gearhart, and

Holsinger.

Monday and Tuesday, November 22 and 23, Garnett, Crabtree, Gearhart, and Holsinger.

Monday and Tuesday, November 29 and 30, El Dorado, Crabtree and Brown. Wednesday and Thursday, December 1 and 2, Eureka, Crabtree and Brown. Friday and Saturday, December 3 and 4, Sedan, Crabtree and Brown. Monday and Tuesday, December 6 and 7, Howard, Crabtree and Brown. Wednesday and Thursday, December 8 and 9, Fredonia, Crabtree, Brown,

and Webster. Friday and Saturday, December 10 and 11, Yates Center, Crabtree, Brown, and Webster.

Monday and Tuesday, December 13 and 14, Burlington, Crabtree, Brown, and Webster.

Wednesday and Thursday, December 15 and 16, Ottawa, Crabtree, Brown, and Webster.

Friday and Saturday, December 17 and 18, Lawrence, Crabtree, Brown, and Webster.

Monday and Tuesday, December 20 and 21, Lyndon, Crabtree and Brown.

DICKINSON COUNTY CIRCUIT.

Monday, November 1, Chapman, Hinman and Bushnell. Tuesday, November 2, Woodbine, Hinman and Bushnell. Wednesday, November 3, Hope, Hinman and Bushnell. Thursday, November 4, Carlton, Hinman and Bushnell. Friday, November 5, Gypsum, Hinman and Bushnell. Saturday, November 6, Acme, Hinman and Bushnell.

DOUGLAS COUNTY CIRCUIT.

Tuesday, November 2, Lecompton, Holsinger and Patterson. Wednesday, November 3, Lone Star, Holsinger and Patterson. Thursday, November 4, Hesper, Holsinger and Patterson. Friday, November 5, Monticello, Holsinger and Patterson. Saturday, November 6, -----, Holsinger and Patterson.

WESTERN KANSAS CIRCUIT.

Tuesday, November 9, Solomon, Hinman and Cunningham. Wednesday and Thursday, November 10 and 11, Lincoln, Hinman and Cunningham.

Friday and Saturday, November 12 and 13, Hill City, Hinman and Cunningham. Monday and Tuesday, November 15 and 16, Stockton, Hinman and Patterson. Wednesday and Thursday, November 17 and 18, Osborne, Hinman and Patterson. Friday and Saturday, November 19 and 20, Cawker City, Hinman and Pat-

terson.

Monday, November 22, Excelsior, Hinman and Patterson. Tuesday and Wednesday, November 23 and 24, Minneapolis, Hinman and Patterson.

Monday and Tuesday, November 29 and 30, Ellsworth, Hinman and Webster. Wednesday and Thursday, December 1 and 2, Russell, Hinman and Webster. Friday and Saturday, December 3 and 4, Hays, Hinman and Webster.

Monday and Tuesday, December 6 and 7, Norton, Hinman and King.

Wednesday and Thursday, December 8 and 9, Phillipsburg, Hinman and

Friday and Saturday, December 10 and 11, Smith Center, Hinman and King. Monday and Tuesday, December 13 and 14, Mankato, Hinman and King. Wednesday and Thursday, December 15 and 16, Belleville, Hinman and King. Friday and Saturday, December 17 and 18, Washington, Hinman and King.

CENTRAL KANSAS CIRCUIT.

Friday and Saturday, October 29 and 30, Clay Center, Wheeler, Philips, Brown, and Conrad.

Wednesday and Thursday, November 3 and 4, Wichita, Wheeler, Brown, and Parker.

Friday, November 5, Oxford, Wheeler and Brown. Saturday, November 6, Argonia, Wheeler and Brown. Monday, November 8, Kiowa, Wheeler and Brown.

Tuesday and Wednesday, November 9 and 10, Medicine Lodge, Wheeler and Brown.

Thursday, November 11, Harper, Wheeler and Brown. Friday and Saturday, November 12 and 13, Wellington, Wheeler, Brown, and Parker.

Monday, November 15, Caldwell, Wheeler and Brown.

Tuesday and Wednesday, November 16 and 17, South Haven, Wheeler, Brown, and Parker.

Thursday and Friday, November 18 and 19, Hackney, Wheeler, Brown, and Parker.

Saturday, November 20, Mulvane, Wheeler and Brown. Monday and Tuesday, November 22 and 23, Newton, Wheeler, Brown, and

Monday and Tuesday, November 29 and 30, Marion, Wheeler and Roberts. Wednesday and Thursday, December 1 and 2, McPherson, Wheeler and

Friday and Saturday, December 3 and 4, Lyons, Wheeler and Roberts.

Monday and Tuesday, December 6 and 7, Great Bend, Wheeler. Wednesday and Thursday, December 8 and 9, Larned, Wheeler. Friday and Saturday, December 10 and 11, Kinsley, Wheeler. Monday and Tuesday, December 13 and 14, Dodge City, Wheeler. Wednesday and Thursday, December 15 and 16, Greensburg, Wheeler. Friday and Saturday, December 17 and 18, Kingman, Wheeler. Monday, December 20, Halstead, Wheeler.

Monday, December 20, Halstead, Wheeler.
Tuesday and Wednesday, December 21 and 22, Cottonwood Falls, Wheeler.
Tuesday, November 9, White City, Kendall and Philips.
Wednesday, November 10, Tampa, Kendall and Philips.
Thursday, November 11, Inman, Kendall and Philips.
Friday, November 12, Burrton, Kendall and Philips.
Saturday, November 13, Sedgwick, Kendall and Philips.
Monday, November 15, Valley Center, Kendall and Philips.
Tuesday, November 16, Whitewater, Miller and Philips.
Wednesday, November 17, Lincolnville, Miller and Philips.
Thursday and Friday, November 18 and 19, Wilsey, Miller, Philips, and Webster.

Webster.

Saturday, November —, ———, Miller and Philips.

DONIPHAN COUNTY CIRCUIT.

Monday, November 29, Denton, Dickens and Headlee. Tuesday, November 30, Brenner, Dickens and Headlee. Wednesday, December 1, Doniphan, Dickens and Headlee. Thursday, December 2, Highland, Dickens and Headlee. Friday, December 3, Severance, Dickens and Headlee. Saturday, December 4, Wathena, Dickens and Headlee. Monday and Tuesday, December 6 and 7, Troy, Miller, Gearhart, Dickens, and Headlee.

NORTHEAST KANSAS CIRCUIT.

Wednesday and Thursday, December 8 and 9, Effingham, Miller, Gearhart, and Holsinger.

Friday and Saturday, December 10 and 11, Wetmore, Miller, Gearhart, and Holsinger.

Monday, December 13, Centralia, Holsinger and Patterson. Tuesday, December 14, Frankfort, Holsinger and Patterson.

Wednesday, December 15, Blue Rapids, Holsinger and Patterson.

Thursday, December 16, Clifton, Holsinger and Patterson. Friday, December 17, Riley, Holsinger and Patterson.

SPECIAL INSTITUTES.

Tuesday and Wednesday, November 16 and 17, Abilene, Webster, Schoenleber, TenEyck, and Roberts.

Friday and Saturday, November 19 and 20, Emporia, Waters and Miller.

To Interest the Farmers in Dairying.

Eastern Kansas has so many advantages for dairying and such superior marketing opportunities that the Agricultural College Extension Department decided to run a special dairy institute train along the Santa Fé railroad lines in the southeastern counties of the State. The train stopped at 69 towns along its route during the past week. It started Monday morning from Topeka and was composed of two lecture cars. All of the lectures, except those at night, were given in the cars. The train traveled on close schedule and stopped forty minutes at each town. The time of arrival at the stops for the week follows:

Monday—Tecumseh, 7:57 a.m.; Lecompton, 8:50 a.m.; Lawrence, 9:45 a.m.; Eudora, 10:35 a.m.; DeSoto, 11:25 a.m.; Wilder, 12:30 p.m.; Craig, 1:33 p.m.; Olathe, 2:25 p.m.; Gardner, 3:17 p.m.; Edgerton, 4:05 p.m.; Wellsville, 4:52 p.m.; Ottawa, 5:55 p.m.

Tuesday—Princeton, 7:50 a.m.; Richmond, 8:50 a.m.; Garnett, 9:45 a.m.; Welda, 10:41 a.m.; Colony, 11:36 a.m.; Carlyle, 12:26 p.m.; Iola, 1:06 p.m.; Humboldt, 2:06 p.m.; Chanute, 3:07 p.m.; Earlton, 4:02 p.m.; Thayer, 4:56 p.m.; Cherryvale, 6:10 p.m., meeting at 8 o'clock.

Wednesday—Independence, 7:45 a.m. and drop speaker; Havana, 8:15 a.m.; Independence and pick up speaker; Elk City, 9:50 a.m.; Longton, 10:50 a.m.; Buxton, 11:50 a.m.; Fredonia, 12:45 p.m.; Benedict, 1:45 p.m.; Coyville, 2:45 p.m.; Toronto, 3:40 p.m.; Quincy, 4:35 p.m.; Virgil, 5:25 p.m.; Madison, 6:30 p.m., meeting at 8 o'clock.

Thursday—Hamilton, 7:30 a.m.; Eureka, 8:50 a.m.; Severy, 10 a.m.; Howard, 11:05 a.m.; Moline, 12:05 p.m.; Grenola, 1:10 p.m.; Cambridge, 2:25 p.m.; Burden, 3:15 p.m.; New Salem, 4:10 p.m.; Winfield, 5:05 p.m., Southern Kansas Depot; Mulvane, 6:45 p.m., meeting at 8 o'clock.

Friday—Rose Hill, 8 a.m.; Augusta, 9:02 a.m.; Eldorado, 10 a.m.; De Graff, 11 a.m.; Burns, 11:55 a.m.; Florence, 12:55 p.m.; Strong City, 2:10 p.m.; Hymer, 3:13 p.m.; Diamond Springs, 4:05 p.m.; Burdick, 5 p.m.; Spend night at Strong City.

Saturday—Emporia, 8 a.m.; Neosho Rapids, 9 a.m.; Lebo, 9:50 a.m.; Olivette, 10:41 a.m.; Melvern, 11:35 a.m.; Quenemo, 12:25 p.m.; Lyndon, 1:35 p.m.; Osage City, 2:45 p.m.; Burlingame, 3:38 p.m.; Carbondale, 4:31 p.m.; Topeka, 5:45 p.m.

Local Notes.

The Board of Regents will be in session at the College next week.

The mid-term examinations of the fall are being held to-day—Saturday.

Assistant G. C. Wheeler spoke at the fair and institute at Junction City week before last.

The Linn County Club, numbering eighteen members, had a picnic last Tuesday evening.

The football team of the College defeated the State Normal last Saturday by a score of 44 to 0.

Although the Manhattan Alfalfa Mill has a capacity of fifty tons per day it is now considerably behind in orders.

The domestic science short-course girls have effected a class organization and adopted a class yell and a class pin.

Several professors and assistants went to Topeka for a day last week to attend the annual meeting of the State Teachers' Association.

Prof. W. A. McKeever lectured before the Manhattan Commercial Club, on "Public Playgrounds for Children," last Tuesday night.

President Waters has accepted the invitation to deliver the principal address at the National Corn Exposition at Omaha in December.

The second team of the College played a game with a team from the 7th Cavalry, stationed at Fort Riley, last Saturday, and beat them with a score of 21 to 0.

Last Saturday evening the Ionians and Hamiltons had a joint Hallowe'en party in the Women's Gymnasium. They had a good old time together. Professor and Mrs. Hamilton were present and acted as chaperones.

The Animal Husbandry Department is making preparations for an exhibit at the International Stock Show, to be held at Chicago the latter part of this month. The College will also be represented by a stock-judging team.

Assistants L. D. Bushnell and C. H. Hinman went to Salina Friday to address the farmers' institute. The former spoke on "Production of Sanitary Milk," while Mr. Hinman gave a talk on the "Management of a Dairy Herd."

Asst. G. C. Wheeler and Miss Frances Brown, of the College Extension Department, lately completed a week's "school-house campaign" tour. Mr. Wheeler spent the week in Marion county, and Miss Brown lectured in Ottawa county. The speakers report that great interest is manifested and that good audiences greeted them wherever they went.

The Kansas Library Association held its ninth annual meeting at Ottawa this year. They had a good meeting and planned to meet in Abilene next year. Miss Mary C. Lee, of the Manhattan Carnegie library, was reëlected treasurer.

The Choral Union has reorganized for the year with the following officers: President, Prof. L. H. Beall; secretary, Marcia Turner; treasurer, H. E. Porter. Rehearsals for the annual concert have been commenced and the outlook for a successful winter's practice is first rate.

Mr. Laurence B. Brink, eldest son of Dean Brink, resigned his position in the Michigan Agricultural College at the beginning of the academic year to accept a more remunerative position as head of the English department in one of the city high schools of McKeesport, Penn. Mr. Brink was a member of the senior class here about five years ago before going to an eastern university to complete a classical course.

After a long period of inaction, there is going to be some lively work at Rocky Ford for a few weeks. The Power and Dam Company expect to build a power-house 30x60 feet out over the river, install the machinery and be ready to sell electricity by January 1. The initial preparation has all been made and work starts at once on the foundation for the building. The water-wheel is here and will be installed soon.—Republic.

Forney Baker, of Malta Bend, Mo., came to Manhattan last Saturday in response to a message from his daughter, Miss Emma Baker, who was injured in the Women's Gymnasium at the College. Miss Baker was exercising upon the ladder, which is a part of the apparatus used in the drills. In some way she lost her hold and fell to the floor, injuring her back. The young lady is getting along nicely and will soon be well again.

The city dads of Manhattan have lately adopted a new and radical tobacco ordinance, the first section of which reads as follows: "Every minor person who shall smoke or use cigarettes, cigars or tobacco in any form on any public road, street, alley, park or other lands used for public purposes, or in any public place of business, shall be guilty of a misdemeanor, and upon conviction shall be punished for each offense by a fine of not more than ten dollars."

The inaugural of Prof. Henry Jackson Waters as President of the Kansas State Agricultural College will be held Thursday, November 11. The program of exercises was published in the last Industrialist and in the Kansas press generally. A large number of the public officers of the State, many prominent educators from all parts of the United States, professors from other agricultural colleges and higher institutions of learning, alumni and prominent citizens have been specially invited to be present, and everybody, specially invited or not, is welcome at all of the exercises of the day. The students and teachers of the College will have a holiday and are expected to be present as the hosts.

That the affairs of the Kansas State Agricultural College have been well conducted and that the strictest economy has prevailed is evidenced by the fact that the total annual cost to the State per student for the past year was about \$111, which is over forty per cent less than the average annual cost of the twenty-two state institutions of the Middle West. If the great Kansas institution is doing its students as much good as the institutions of other states are doing their students, then the showing is highly commendable. It should not be a question of how cheaply our boys and girls can be instructed, but how well.—Kansas Farmer.

Prof. A. M. TenEyck gives some facts and figures concerning the work and scope of the Agronomy Department which should prove interesting. The income of the department, including the receipts from seed grain and other products for the first quarter was \$2408.16, and for the entire year amounted to \$9658.16. The running expenses of the department, including all College and laboratory expenses, in fact, all expenses, with the exception of salaries of the teaching force, amounted for the year to \$21,400. The extent of the correspondence of the department is something immense, their stamp bill alone for three months amounted to \$74.30. They answer on an average over 7500 letters a year, and during the past two months have answered from 25 to 40 letters every day.—Students' Herald.

In a letter to Professor TenEyck, O. E. Hartwell, Eldorado, Kan., writes as follows regarding his success with planting Kafir-corn seed which he secured from the College last spring: "I bought of you two and one-half bushels of Kafir-corn seed last spring for my son-in-law. The neighbors laughed about giving so much for seed, but they see now that good seed pays, as the boy took the seed to a fair and took the first premium and the man that took the second premium offered him \$1.25 per bushel for what seed he wanted to plant next year, so you can see it pays anyone to get good seed of any kind. I thank you for your kindness in sending good seed. All the neighbors want this seed for next year, so it will encourage people to buy their seed of you after this. They do not spend enough time in their fields to get the best results."

At a meeting of the College Athletic Association last week Prof. J. V. Cortelyou handed in his-resignation as manager of athletics at K. S. A. C., to take effect at the close of the football season. Lack of time on account of other duties caused him to take this action. In the past few years the work of the manager of athletics has increased several times its former proportions. Not a cent of remuneration is given by the College, the association, or anyone else. Professor Cortelyou has proved an able manager during his incumbency. He has helped to bring K. S. A. C. to the front in athletics and through his influence a friendly feeling with all the other institutions of the State and Middle West has been developed. Several names have already been mentioned for his successor. Among them are Profs. H. H. King, J. O. Hamilton, E. B. McCormick, and J. E. Kammeyer.

The reception Monday, October 25, tendered by the Faculty to President and Mrs. H. J. Waters, was a success in every particu-There were more people present than at any similar function in the history of the College. The rooms of the Domestic Art Department, where the reception was held, were tastefully decorated with oak and other autumn leaves. In each of the two rooms where the refreshments were served a different color scheme was car-The spacious exhibition hall where the reception was held appeared especially festive in its fall leave colors. In the receiving line were, besides President and Mrs. Waters, Dr. and Mrs. C. M. Brink, Dr. J. T. Willard, Dr. and Mrs. J. D. Walters. Prof. and Mrs. B. L. Remick, Prof. and Mrs. E. H. Webster, Prof. and Mrs. T. J. Headlee, Prof. and Mrs. E. B. McCormick, and The guests began to arrive shortly after Mrs. Mary P. Van Zile. 8 o'clock, and soon a double line extended across the building, and it was nearly 10 o'clock before the end of the line was reached, several hundred alumni and Manhattan people having taken advantage of this opportunity to meet the new executive of the Col-The affair was a brilliant success, nicely planned and carried out in all the little details, and President and Mrs. Waters are to be congratulated on the cordial greeting they have received by the College family and the social circles of the city of Manhattan.

It is a matter of vital interest to a large educational institution like the Kansas State Agricultural College to be located in a growing commonwealth, a city that is alive in every respect, a town that is fully able to properly board and house a college family of several thousand students and to furnish them with proper living precepts of business expansion and civic development. was a time when colleges were preferably located in "dead" country towns in order to isolate the student body, but this conception of student life is a thing of the past. A polytechnic school of engineering courses would gain much if it could be placed in the suburbs of a metropolis like Chicago or New York, and it is evident that a school that is largely agricultural can be benefited much by locating it in a growing town in the midst of a district of high-grade and diversified agriculture. Manhattan is such a Its geographical location is very favorable. A glance at the map of Kansas will convince any one that the broad valley at the confluence of the Kansas river, the Big Blue river, Wild Cat creek, McDowell creek and Deep creek must mean a rich and diversified district—an ideal place for a great school like the one The city is a model residence town. that is located here. several railroads, three banks, two flour mills, two implement factories, an alfalfa mill, a poultry packing house, a planing mill, a system of street railways, and several smaller business establish-During the past nine months the city has graded or regraded thirty miles of streets, laid seven miles of curbing, built nearly four miles of street sidewalks and about one hundred cement street crossings, expanded its water service, and installed nearly two hundred new street lamps. Manhattan is progressive.

THE INDUSTRIALIST.

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THE

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(Board of Instruction concluded on last page.)

THE INDUSTRIALIST

Vol. 36. Manhattan, Kan., November 20, 1909.

No. 6

The Inauguration of President Waters.

Prof. Henry Jackson Waters, B. S. A., the sixth President of the Kansas State Agricultural College, was formally inaugurated, Thursday, November 11.

The extensive program of the exercises will be found below. It provided for a forenoon and afternoon session in the large College Auditorium, luncheon for the specially invited guests, a drill on the campus by the College battalion, and an evening reception in honor of the new executive of the institution, held in the Domestic Science and Art Hall. There were many distinguished visitors present from all over the State and from many other institutions of learning, and the attendance was larger than the three thousand seats of the Auditorium could hold. have been four thousand people on the ground in the afternoon. The weather, which had been rather windy for a week, changed and gave us a beautiful Indian summer day. The addresses were uniformly of a high order, and every part of the program was carried out as announced. In short, the inauguration was a complete success and will be remembered in the annals of the College as a special red-letter day.

The following paragraphs contain a brief account of the doings of the day. Much of it has been excerpted from leading papers that had reporters on the ground, such as the *Topeka Daily Capital*, the *Kansas City Star*, the *Topeka Journal*, the *Kansas City Journal*, the *Manhattan Daily Mercury*, the *Kansas Farmer*, the *Stock Breeders' Special*, and the *Students' Herald*. The reports of the addresses are omitted. These were so full of sound thought that the Industrialist has secured verbatim reports of all of them and intends to publish them in full in future issues.

SALUTED GOVERNOR.

In the morning before the program began Governor Stubbs and other visitors were escorted from the Hotel Gillett in Manhattan to the College campus in motor cars furnished by Manhattan citizens—Ex-Mayor Geo. T. Fielding, H. Wareham, B. W.

Smith, and R. Gillett. The autos. were preceded by four companies of College cadets and the College military band.

As the parade reached the campus a salute of seventeen guns was fired by a detachment of the cadets in honor of the Governor. In a motor car with the Governor were Representative Charles I. Scott, Walter Williams, dean of the school of journalism of the University of Missouri, and President Waters, and in other cars were Chancellor Frank Strong, of the University of Kansas; F. D. Coburn, secretary of the Kansas State Board of Agriculture; Joseph Hill, president of the Kansas State Normal School; E. T. Fairchild, state superintendent of public instruction; Dr. Septimus Sisson, University of Ohio; Edwin Taylor, W. E. Blackburn and Arthur Capper, Regents of the Kansas State Agricultural College, and C. F. Foley, Wm. Allen White and W. Y. Morgan, regents of the University of Kansas.

THE FORENOON PROGRAM.

The forenoon exercises were presided over by Gov. Walter Roscoe Stubbs and were as follows:

Overture, "Algeria"—Herbert	College Orchestra.
Invocation	S. Alonzo Bright, D. D.
Nature's Adoration—Beethoven	Olof Valley
Greetings from the University of Kansas Chancellor University of Kans	Frank Strong, Ph. D. as.
Greetings from the Normal School	Joseph H. Hill, D. D.
Greetings from the Public Schools E State Superintendent Public Instru	action.
Greetings from the Farmers of KansasFor Secretary State Board of Agriculture	lture.
Festival Hymn—Buck	
Greetings from the Colleges and Universities at la	rge
Dean, School of Journalism, University	. Walter Williams, LL. D. of Missouri.
The Duty of the State and Nation to Agriculture a	and the Industries
Chairman Committee on Agriculture of the House of Repr	esentatives of the Congress of
March, "His Excellency" - Fillmore	College Orchestra

The greeting addresses by these five distinguished speakers were really masterly discussions of the problem of technical education and the past and future work of the College. That of Dean Williams, of the State University of Missouri, was an especially scholarly effort and we are glad to be able to promise that the Industrialist will publish it in full.

AFTERNOON SESSION.

At the close of the morning exercises the distinguished visitors, members of the Board of Regents and Faculty were invited to the Domestic Science and Art Hall where a tempting luncheon was served by the girls in the domestic science course at the College, under the supervision of the teachers of this branch of instruction. Many were the compliments paid the K. S. A. C. cooks for the excellence of the viands which they had prepared.

THE CADET DRILL.

At 1:30 the regiment of College cadets and the College band executed a series of maneuvers on the campus for the entertainment of the visitors. The immense throng keenly enjoyed the drills and exercises by the College soldiers and the martial airs by the cadet band. It was estimated that four thousand persons were gathered on the campus to witness this part of the day's program.

THE AFTERNOON PROGRAM.

At the afternoon exercises Hon. W. E. Blackburn, president of the Board of Regents, presided. Following music by the College orchestra and the invocation, Governor Stubbs was introduced. The Governor delivered an address on "The Duty of the State to Higher Education," in which he pointed out among other things that while higher education was a most profitable investment for the State to make, Kansas was slow to realize this fact and that the State should spend more money in the support of its institutions of learning. His speech was delivered without notes or manuscript and was typical of his impetuous truly Western nature. When he closed the audience greeted him with vigorous applause.

CONGRATULATIONS.

During the afternoon Regent Blackburn announced that congratulatory letters and telegrams had been received from a hundred or more colleges, universities and educators all over the country, but there were so many that he decided to read only two, that of the Chicago Alumni Association and that of Secretary Wilson, who congratulated the school and the State upon securing as president a man of the calibre of Mr. Waters.

FORMAL INSTALLATION.

The formal installation of President Waters was a most impressive ceremony. Hon. W. E. Blackburn, the presiding officer, presented him to the Board of Regents, to the Faculty, the alumni and students, the visitors, and to the immense audience. The President rose and bowed, but he had no chance to speak. The students sprang to their feet, the Faculty waved their hats, the visitors rose, and all joined in a great ovation to the newly installed executive, during which the College song, "Alma Mater," was sung, followed by a thundering College yell that shook the

rafters of the great building. The walls were made to echo and re-echo with the old College yell given by the students. No man had ever received such a greeting by the Kansas State Agricultural College. It was truly spontaneous and hearty.

President Waters, in accepting the presidency, discussed the work and the aims of the Agricultural College in a lengthy and scholarly address that was well received by the audience. As it will be published in full in this paper the reporter will not presume to make notes of its many excellent points.

CONFERRING OF DEGREES.

The conferring of degrees closed the program of the afternoon. The honorary degree of Doctor of Laws was, upon the unanimous recommendation of the Faculty, confirmed by the Board of Regents, conferred upon the following: Congressman Chas. F. Scott, Dr. Walter Williams, Chancellor Frank Strong, Pres. Joseph H. Hill, Supt. Edward T. Fairchild, Gov. Walter Roscoe Stubbs, and Secy. Foster Dwight Coburn.

These gentlemen were introduced to the President for their degrees by different members of the Board of Regents, by brief congratulatory addresses, and the diploma was formally presented to the candidates by President Waters. The announcements of these academic honors bestowed upon the distinguished and worthy men were received by the audience with much satisfaction and with loud applause. The exercise was followed by the singing in unison of the College song, "Alma Mater," by Alumnus H. W. Jones, '88.

Inauguration Day was fittingly closed by the public reception in the evening at the Domestic Science and Art Hall. The function was a grand success, graced as it was by the presence of Governor and Mrs. Stubbs, the visiting representatives of various educational institutions, and the members of the Board of Regents. About eight hundred people—students, townspeople, instructors, and visitors—attended.

The hall decorations were black and gold, the color scheme of the reception parlor was purple, further set off by a varied collection of College pennants. Altogether the decorating was the most tasteful and comprehensive ever seen at the College and caused much favorable comment. The four punch bowls were presided over by the ladies of the Faculty, who made, as usual, charming hostesses.

Dean Webster, President and Mrs. Waters, His Excellency Governor Stubbs, Mrs. Stubbs, Secretary and Mrs. Coburn, Dean Williams of Missouri, Superintendent and Mrs. Fairchild, Chancellor Strong of the State University, Doctor Hill of the State Normal, Regent and Mrs. Sponsler, Regent Taylor, Regent Tulloss and Regent Blackburn were in the receiving line.

The College orchestra, under the direction of Prof. Robert H. Brown, furnished the music for the occasion.

OUR VISITORS.

The attendance at the forenoon and afternoon exercises in the College Auditorium reached the three thousand mark, that is, every square foot of available space was occupied. Among the visitors who attended the ceremonies were:

Governor Stubbs and wife, Congressman Charles F. Scott, Secretary F. D. Coburn and wife, Senator L. S. Cambern, Representative C. F. Foley, Senator A. S. Cooke, Col. J. F. True, Chancellor Frank Strong of the University, President Joseph H. Hill, Arthur Capper, W. E. Blackburn, Senator Edwin Taylor, Doctor Milligan of Garnett, William Allen White, Representatives W. P. Feder and Veatch, Senator P. C. Hostrup and wife, and a number of other members of the legislature.

There were also present Ex-Regents E. B. Purcell and wife, John Elliott, C. B. Hoffman and wife, A. M. Story and wife, J. W. Berry, Geo. S. Murphy and wife, R. J. Brock and wife, Geo. P. Griffith, John E. Hessin and wife.

Among the visitors from abroad and from other faculties were Vice-Chancellor W. H. Carruth and Deans F. O. Marvin, Olin Templin, L. E. Sayre, and F. W. Blackmar, of the State University; Walter Wellhouse, of Topeka, secretary of the Kansas State Horticultural Society; I. D. Graham, of the Kansas Farmer, Theo. W. Morse, of the Breeders' Special of Kansas City; Prof. H. J. Harnley, of McPherson College, Dr. and Mrs. Septimus Sission, of Columbus, O. (Doctor Sission is professor of comparative anatomy at the Ohio State University.), E. H. S. Bailey, director of the chemical laboratories at K. U.; Mr. and Mrs. W. S. Heusner, of Junction City: M. F. Foxell, president of Midland College, of Atchison; J. H. Mercer, state live stock sanitary commissioner; C. A. Chandler, of Topeka, state architect; Professors Hunter, Higgins, and Walker, of the State University; Regents J. W. Gleed, William Allen White, W. Y. Morgan, and C. F. Foley, of the Kansas State University.

The presence of the large delegation of the leading men from the University was a courtesy that the Kansas State Agricultural College people appreciate very much. They are splendid men and Manhattan and the College felt highly honored by their visit.

MANHATTAN'S HOSPITALITY.

Everything possible was done for the comfort and entertainment of the visitors. Many homes of Manhattan people were thrown open to the guests who might not find entertainment at the regular hostelries. The committee on entertainment also provided guides to meet the trains and show the visitors to the College or to their places of entertainment. Others directed the visitors about the campus and College buildings, showing them every detail of the work of the big Kansas State Agricultural College.

College Science Club.

Monday evening, November 1, a large group of teachers and students met in the chemistry lecture room for the purpose of organizing a science club. Short discussions were presented by Professors Roberts, King, and Headlee.

Professor Roberts discussed briefly "A quantitative method for the determination of hardness in wheat." This method, devised by him, determines the hardness of the grain in terms of the crushing point in grams. The apparatus used, which had been especially designed and constructed for this purpose, was exhibited. Curves were shown, giving experimental results in determining the mean crushing point and the error of the mean in eighteen cases, using different numbers of grains. Mean crushing points have been determined for one hundred pure-bred wheat races which have been analyzed for protein. By means of the correlation coefficient between hardness and protein content it is hoped to establish a method for selecting for protein shorter than the usual one of chemical analysis.

Professor King demonstrated the use of the Barber pipette in isolating a single bacterium in such a way that its processes can be watched under the microscope. This pipette method is an invention of considerable importance to those engaged in the study of bacterial activity.

Professor Headlee discussed the purpose and the construction of a constant temperature and moisture incubator for the study of injurious insects. He pointed out the fact that hitherto students of Hessian fly, chinch-bug, and many other insects of great economic importance, have studied them largely without particular reference to the environments in which they live and upon which their lives depend. He stated that a study of this phase was absolutely necessary to the fundamental understanding of their life economy,

and that insects which are capable of exacting a yearly tax of millions are surely worthy of such fundamental study. Professor Headlee has devised this apparatus for the purpose of studying this phase of the subject.

After finishing the program the club appointed Professors Roberts, Kammeyer and King to draft a form of organization, and Professors McKeever, Hamilton and Eyer as a temporary committee to prepare program for the next meeting. The club will meet on Monday evening, November 15, 1909, to enjoy a program and to complete organization. All persons having an abiding interest in science are invited to attend.

The College Battalion.

Commandant Boice, of the College regiment of cadets, has announced his commissioned officers for the fall term. Since last year the cadets have been put on a regimental basis, where before there had been but a battalion. The following compose the staff of Commandant Boice: Guy C. Rexroad, Lieutenant Colonel; Chas. Cassell, Major First Battalion; Joe G. Lill, Major Second Battalion; Earl L. Edwards, Regimental Captain and Adjutant; J. F. O'Connor, Regimental Captain and Quartermaster; H. W. McFadden, First Lieutenant and First Battalion Adjutant, Clarence Fry, First Lieutenant and Second Battalion Adjutant.

The following are the company officers: Co. A—Captain, T. E. Nafziger; First Lieutenant, C. F. Turner; Second Lieutenant, G. E. Campbell; Co. B—Captain, Roscoe Branson; First Lieutenant, W. R. Getty; Second Lieutenant, Rae Anderson; Co. C—Captain, Floyd Wilson; First Lieutenant, W. W. Casteel; Second Lieutenant, F. G. Campbell; Co. D—Captain, Reynold Shuler; First Lieutenant, W. M. Kelley; Second Lieutenant, Kenneth March; Co. E—Captain, Frank Weber; First Lieutenant, J. E. Jenkins; Second Lieutenant, S. M. Ransopher; Co. F—Captain, Ralph Hand; First Lieutenant, Harold O'Brien; Second Lieutenant, Ray F. Cooper.

Including the cadet band there are now five hundred cadets enrolled. The new bandmaster, Geo. W. Westphalinger, U. S. A., has arrived and assumed charge of the band.

Neither one of the three seniors who were recommended to the war department last spring have as yet entered the service. G. C. Rexroad and Anton Hanson expect to enter as soon as they have completed their College work this fall. The other, Fritz Harri, will remain a civilian.

Program of Teaching Work for Fall Term, 1909,

INSTRUCTOR.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.
Walters	Hist. Arch10	Desc. Geom18	Heat & Plumb9	Residences
Weeks	S. C. Draw	(1) 21 (2) 21	Color & Design I	T+T11
Putnam	Color & Design I	T+T 17	S. C. Drawing	(1) 26 (2) 4
Grazier	Desc. Geom. Lab	W+F 10 T+T 6 W+F 4	Desc. Geom. Lab Desc. Geom. Lab	
Morton		T+T 26	Freehand Drawing	T+T4
Willard	Ag. Chem. I, alt. days 47		Ag. Chem. I Lab	Human Nutr7
King,	Chemistry I33	Adv. Inor. Chem11	Chemistry I28 Chem. II & III45	Chemistry I 3
Whelan Newman		Chem. I & II39, 69	Chem. I & III Lab	T+T 24, W+F 2
Thompson	Chemistry I Lab	W+F 42	Chem. I Lab	T+T 26, W+F3
Lewis 1	Geol. II 2d. 1/2 t 13			
Remick	Algebra III37	Int. Calc12	Int. Calc	
AndrewsBarnett	Anal. Geom31 Bookkeeping49	Geometry I52 Bookkeeping53	Trigonometry31 Bookkeeping51	
Zeininger	Geometry II19	Trigonometry 36		
Holroyd McGarrah	Geometry I35	Algebra I27 Algebra II45	Geometry I29	
Porter	Diff. Cal22 Algebra I24	Algebra III40		
Petty Bisby		Geometry II33 Algebra I29	Geometry II34 Arithmetic A21	Trigonometry
Kay Jackson			Algebra III32	Algebra I
White	Trigonometry40	Diff. Cal23		
Salkeld	Algebra II25	Geography14	Arithmetic B22	Arithmetic B
Eyer		D. C. Mach. II18		
Davis	Botany II36		Elec. Instru. & Calibr Plant Anat26	
Smith 3				Botany II
Rose Monroe		Botany II53 Botany I46	Botany II Lab	T 6, W 7, F 5, S 5
Graff McKeever	Botany II Lab., 5 sec Psychology26	T, W, T, F, S, 36 Hist. of Ed12	Botany I	
McCormick			App. Mech. II. 10	El. Psyc. Tu. 37, T 27, S App. Mech. I
Potter* Seaton ⁵	Kinematics II11	St. Eng. II (Therm)8	Kinematics I,9	
Bowerman ²	Woodwork I			
nouse	Woodwork II	W+F 36 T+T 6	Woodwork I Woodwork II	
Ridenour			Foundry	T+T 2, W+F
	Blacksmithing I	W+F9 T+T1	Blacksmithing I	w+F
Dickens		Pomology 18 Forestry3	Pomology II2	
Cunningham	Horticulture24			Dendrology
BrinkBeall	Eng. Lit. I27 Rhet. II22	Rhetoric II32 Rhetoric I31	Readings25	Eng. Lit. I
Rice	Adv. Comp21	Classics 21	Rhetoric I30	Readings
Leonard Knight	Classics36	Adv. Comp28	Classics18	
Furley Boot	Adv. Gram37 Adv. Gram29	Readings27		
Edson	Composition28	Adv. Comp27 Grammar A34	Adv. Gram26	Composition
Penn	Grammar B13 Agriculture56			Grammar B
Doryland			Agriculture48	
Price Reynolds	Amer. Hist18	Amer. Hist26 Anc. Hist31	Civics	Civics
MackGordon			Mod. Hist30	Mod. Hist
Chase		U. S. Hist. B13 Anc. Hist40	Anc. Hist22 Anc. Hist30	U. S. Hist. A
Justin			U. S. Hist. B25	
Johnston			Economics48	Pub. Spkg. I2 Adv. Gram3

Assists Mr. Griffin W&F, 1st, 2nd, 3rd, & 4th hrs., and Messrs. King and Newman, T, W, T&F 5th. & 6th. hrs. Assists Mr. Seaton with Mechanical Drawing I & III, T, T & S, 5th. & 6th. hrs., and Monday 1st.-8th. hrs. Botany II Lab. Tu. 13. W 12. F 14, 7th & 8th hrs. Engineering Laboratory, F 7, 5th, 6th, 7th & 8th hrs. Mechanical Drawing VI. W 9, 5th, 6th, 7th & 8th hrs. Machine Shop IV, T 11, 5th. 6th, 7th & 8th hrs. Machine Shop II, Th & S 4, 8th & 9th hrs.

Showing Instructors, Subjects, and Numbers in Classes.

FIFTH HOUR	SIXTH HOUR.	SEVENTH HOUR.	MONDAY A. M.	MONDAY P. M.
Freehand Drawing	T+T 38		Arch. Draw8	Water Color4
Color & Design II	ositionW+F+S 14 W+F 22		Obj. Draw30	Color & Design I41
Color & Design I Freehand Drawing	T+T 29 T+T 46		Modeling12	Freehand Draw33
Desc. Geom9	Desc. Geom11		Projection28	Geom. Draw34
Geometrical Drawing	ZT+T 40 W+F 38		Freehand Draw28	Freehand Draw30
Chemistry III Lab	T+T 34, W+F 22		1	
Ag. Chemistry I Lab Chemistry I Lab	T+T 44, W+F 53		Ag. Chem. I Lab23	
Chemistry I48			Geol. II Lab. 2d. 1/2 t13	Inor. Chem. Lab10
Algebra III17	Algebra IV6 Algebra III9			
Trigonometry43	Algebra II16			
Algebra II22	Geometry I20			
Bookkeeping43	Bookkeeping41			
Geometry II14	Geometry II9			
Algebra IV9	Algebra I11 Algebra I16			
Trigonometry10 Geometry I16				
Algebra I17				
D. C. Mach. II Lab	W+F 9, T+T 9 vith Professor Eyer			
Botany II Lab	W 24. F 20. S 25			
Plant Anatomy Lab.	T+T 26			
Botany I29	Botany I34			
	Botany II24			
Botany II18	El. Psychol. Tu50			
Farm Motors T+T31	Farm Motors29			
Engineering Laborate	ory E. IT+T+S 25		Eng. Lab. II7 Mech. Draw. I22	Mech. Draw. III21
Woodwork I	W+F 41		Woodwork I44	Woodwork II22
Machine Shop I & III	$egin{array}{llllllllllllllllllllllllllllllllllll$		Mach. Shop IV12	Mach. Shop I16
Foundry	T+T 11, W+F 5		Foundry12	Foundry15
Blacksmithing II	$\cdots \cdots $		Blacksmithing I33	Blacksmithing II33
Pomology I Lab	$\mathbf{W} + \mathbf{F} 8$			Floriculture19
Wortigultung Tab	TT TT 10		Forestry I Lab2	Dend. Lab6
Horneulture Lab	W+F 10			

Classics 23	Rhetoric I20			
Adv. Gram23	Classics			
Adv. Gram10	Readings7 Adv. Gram26			
Composition14	Auv. Graili26			
Cail Dhwa II W B a C co	Coll Dhandar II I			
Soil Phys. II W, F, & S, 10 Agriculture33	Soil Physics II Lab			

Med. Hist24 Anc. Hist25	Anc. Hist29			
***************************************	Alic. Hist29			

Pub. Spkg I18	Pub. Spkg. I12			

Program concluded on next two pages.

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Program of Teaching Work for Fall Term, 1909.

INSTRUCTOR.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.
Cortelyou	German I18	German I22	German I17	German III
Meinzer	German I	Adv. Gram28	German II23	
	Voice14	Voice14	Voice22	Voice
Valley1				Voice
Brown	Violin5	Cello & Dble Bass4	Violin 20	Theory
Cannon	Piano11	Piano15	Piano14	Piano
Baum	Piano15	Piano10	Piano10	Piano
Ping	Piano9	Piano14	Piano11	Piano1
Schoenleber			Med. III, alt. das8	
Stouder	Physical Diagnosis	10	Sur. III. alt. das 10	Mat. Med. I
Joss	El. Physiology26	Histology I18	Pathology II17	
Rogers	Anatomy IV Lab., al	t. days14	Anatomy I Lab., alt.	das2
	TH	Anat. IV, alt. das.14	Anat. I, alt. das23	
Hayes ²	Physiology21	Physiology28	Physiology35	
King	Exp. Feeding, alt. das 8			
Patterson	Live Stock II, alt. das 23			
Wright				
King	Bact. I, alt. das52 Bact. I, alt. das40		Bact. I, alt. das30	
Bushnell ³	Bacteriology I Lab	T+T 16. W+F 8	Bacteriology I Lab.	T+T
Headlee	Zoölogy I 43		Zoölogy I56	
Scheffer	Geol II let 1/4 t 12	Geology I41	20010gy 1	
Evans	708logg T I ob	T+T 20, W+F 17	Zošloge I I ob	TO TO 10 III
Boice	Zoology I Lab	1+1 20, W+F 17		
Doice				
Brintnall				Dairying
Nystrom 4				
Hamilton	· <u>··</u> ···· <u>·</u> ···· <u>··</u> ··· ··· ··· · · ·	Physics III28	Physics III28	
Logan			Physics I48	Physics III
Jenness	Physics I50	Physics I58	Physics I Lab	W 24, F
VanZile				Dom. Science III
Dow		Home San27	Home San15	
Willis	Short Course Cooking	ng, alt. days19	Short Course Cookin	g, daily
Woodward	Cooking, 2 sec., alt	20-19		
Lindsey			Cooking, 2 sec., alt	16
Huse	Short Course Cookin	g, alt. das19	Short Course Cookin	or (doily)
Meade	Short Course Cooking	ig, daily20	Short Course Cooking	g (ually)
Coffman	Cooking alt days		Short Course Cooking	
Becker	Cooking, air. days	Adv. Dress MkgW+F 18	Coming III all	******************
Cowles	Short Course Comin	g (daily)21	Sewing III, alt. da	
			Short Course Sewin	g, alt. da
Stump ⁵			Sewing I, 2 sec	17-
Donaldson	Sewing I, 2 sec	20-23		
Byerly	Sewing I & II, alt			
Forceman	Short Course Sewing	g (daily)18	Short Course Sewin	g. alt. da
Conrad ⁶ and 7				Munic Eng
	Surveying I	T+T 10	Surveying I	T +T
Stone 8 and 9	Sur of and received			
		Printing. 3	Printing 9	Drinting
		Printing3	Printing3	Printing
Rickman	Printing		Printing 1	Printing

¹Glee Club, F 12, 8th hr.
²Physiology Lab. Th. 21, 7th & 8th hrs.
³Bacteriology I Lab.. W & F 27, 7th & 8th hrs.
⁴Butter Making Lab.. F & S 7, 7th & 8th hrs.
⁵Advanced Dress Making, 18, 6th, 7th, & 8th hrs., alt. days.
⁵Surveying II, T & T 5, 8th & 9th hrs.
¹Civil Engineering Drawing III, W 8, 5th. 6th, 7th, & 8th hrs.
°Surveying II, T & T 6. 8th & 9th hrs.
°Surveying I, T & T 25, W & F 35, 8th & 9th hrs.
¹Printing, 2, 8th hr.
¹¹Physical Training, 25, 8th hr.

The College lecture course committee has closed a contract with Signor Victor's Venetian Band for a matinee and evening concert to be given Monday afternoon and evening, November 22. The matinee concert will be complimentary to the children of the city This is a band of the Banda Rossa type, composed of Italian players, and is one of the finest concert bands now traveling in America, according to eastern musical critics.

Showing Instructors, Subjects, and Numbers in Classes (Concluded).

FIFTH HOUR.	SIXTH HOUR.	SEVENTH HOUR.	MONDAY A. M.	MONDAY P. M.
erman IV 16 foice 23 fiolin 18 fano 10 fano 11 fano 12	Piano11	ChorusF 50 Orchestra37		
athology I Lab natomy I Lab ny I Lab		W+F 17	Anat. I Lab 1-2-3 23 Anat. IV Lab 1-2 14 Physiol. Lab 1-2 20, 3-4 17	Clinic
Bacteriology I Lab	W+F 30. T+T 26		Live Stock II Lab 32	Spec. St'k. Judg6-9 21
Ento. II, alt. da7 Zoölogy I Lab Zoölogy I22	S 14 Zoölogy I	Military Drill 526	Bacteriology I Lab. 1-2 14 Entomology II Lab. 1-4 7 Geol. II Lab. 1st ½t 13	
Physics I38 Physics III Lab Physics I Lab Physics II Lab	W+F 24, T+T 29 W 30, F 28 T+T 23		Dairy Lab	Dairy Lab
Detetics, alt. das. 21 Detetics Lab., alt. d Detetics Lab., alt. da Detetics, alt. das. 22 Short Course Cooking Short Course Cooking	a	19		
Short Course Cooking Short Course Sewing Sewing III, alt. da	g 			
Short Course Sewing Short Course Sewing Sewing II, alt. das Surveying I	T+T 6	18	Surveying II9	Graph. Statics 5-7 22
Surveying I	Printing4 Printing2	Printing 5 Printing 2	Surveying II9 Printing2	Surveying V 21

An idea of how widely known the work of the Kansas State Agricultural College is, may be gained from a communication recently received from New Zealand by President Waters. The board of education of South Canterbury, Timaru, New Zealand, have made application to him for a graduate from the College who could take the position of supervisor of agricultural instruction among high schools and rural schools of that province. The board offers a salary of 400 pounds per annum and 40 pounds additional for passage from the United States. Nineteen years ago the province of Queensland, Australia, elected Prof. E. M. Shelton, of the chair of agriculture of this College, president of their newly founded agricultural college.

Local Notes.

The last *Manhattan Republic* contains a very well-written article on the relations of the Kansas State Agricultural College and the State University.

A total moon-eclipse will take place November 27 and will be visible here. Luna will be totally immersed in the earths shadow from 2:14 to 3:36 a.m., central time.

The Faculty are considering the advisability of changing the chapel exercises to some other hour of the day in order to increase the attendance and interest of the students in the daily "family gathering."

D. H. Zuck, formerly farm foreman for the Agronomy Department, came in from Colorado last Monday to look after business interests. He reports good crops in his part of the state—Cheyenne county.

The Faculty at its meeting last Wednesday voted to close the fall term on Thursday, December 23, in place of Friday, December 24, so as to give the students a chance to reach home before Christmas eve.

Professor Ten Eyck has for distribution, at the Agronomy Department office, one hundred copies of the new catalogue of the National Corn Exposition, giving information regarding exhibits, premiums, etc. Any who are interested may call at the agronomy office and secure a copy.

Messrs. F. W. Cole, J. C. Gafford and C. E. Wyant and stenographer Miss Maloney, assistants of the State accountant, spent the whole of last week in the Secretary's office examining the books and records of the College for the last four or five years. The report will be made to the governor direct, but they hinted before leaving that everything is "square."

M. J. Oteyza, a young Japanese who studied at this College last year, writes to Professor Walters from Yale University that he has nearly completed his course in forestry and feels very happy over the prospect of an early return to Japan. He may, however, conclude to come to Manhattan once more and complete here the full course in agriculture, which he left here a year ago as a junior.

Professor TenEyck returned from Baxter Springs recently where he superintended some experimental blasting on the farm of ex-Governor Crawford, in Cherokee county. The experiment is quite a novel one and something quite unlike anything ever tried before. The object of the blasting is to break up the "hard-pan" immediately below the surface of the ground. Its depth below the surface varies at from one to three feet and the strata has an average thickness of about eighteen inches. This hard-pan is a peculiar soil formation. When dry it is as hard as brick. It is absolutely impervious to water. Below it is the ordinary subsoil. Above it is a fertile loose loam easily tilled. The objection to the strata of hard-pan is that it interferes with the supply of moisture.

During a dry season the water supplied to crops by capillarity from below is cut off, while with every heavy rain the soil will puddle, as the water cannot percolate downward. By breaking up the barrier to the moisture by means of blasting with dynamite, it is hoped this fault of the soil will be remedied. Besides affecting the moisture supply, it is also impossible to get at the deep rich earth in tilling. The soil in this section has been cropped continuously for thirty or forty years and is beginning to show signs of depletion. The blasting experiments are being carried out on the cooperative plan. Professor Ten Eyck is directing the work, the Du Pont Powder Company is furnishing the dynamite, and ex-Governor Crawford furnishes the labor and the land on which the experimenting is being done. The charges of dynamite are placed in holes twenty feet apart each way. The explosion causes the soil to be almost pulverized for a radius of from three to four feet about the spot.—Nationalist.

Dr. J. H. Burt, D. V. M., of Buffalo, has arrived at the College and entered upon his duties as inspector for the live-stock registry board, which is to see that the law passed by the last legislature relating to the registration of stallions is enforced. Doctor Burt comes highly recommended. He is a graduate of the Toronto Veterinary College and of the veterinary department of the Ohio State University. Before accepting the position here he was in the service of the government bureau of animal industry. He was detailed to have charge of the work of investigating and eradicating the foot-and-mouth disease of cattle in New York state. His headquarters during that time were in Buffalo. His headquarters will be at this College, which is also the headquarters of the registry board composed of Director Ed. H. Webster, dean of agriculture at the College; Prof. R. J. Kinzer, head of the Animal Husbandry Department, and Dr. F. S. Schoenleber, State veterinarian.

The Union Pacific Railroad Company has agreed to take all exhibits for the National Corn Exposition to Omaha free of charge from Manhattan and vicinity, but all exhibits must be sent to Manhattan that they may leave here in a special refrigerator car on No. 173 at 6:40 a.m. November 23. Under the interstate commerce law the railroads are allowed to do this, and the Union Pacific is the first road to announce that it will be done from almost all points east of Chevenne and Denver. As the rules of the corn show require that all exhibits be in Omaha by November 27, the schedule of the Union Pacific gives ample time. The exposition opens December 6 and closes December 18, all of the judging being done before the show opens, which makes it possible for the first visitors to see the prize winners. If any change in time is made, exhibitors will be notified, and the railroad company has given order for all agents to assist exhibitors in every way possible handling exhibits and getting them on the cars in good shape. Passengers accompanying exhibits will be obliged to purchase regular transportation covering trip made.

Board of Instruction (concluded).

ASSISTANTS.
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THE INDUSTRIALIST

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No. 7

Greetings from the Public Schools.

(State Superintendent Fairchild, at inaugural of President Waters.)

Mr. Chairman, members of the Board of Regents, the Faculty, Ladies and Gentlemen:

It is a matter of much moment that on this auspicious occasion every friend of the Agricultural College shall take pause and inquire carefully into the history of this institution in the past, examine its work in the present and consider fully its plans for the future.

The twentieth century demands upon our public schools and colleges seem startling and even revolutionary to those trained under the system of two or more decades ago. The curricula of all our schools have indeed greatly changed in the past generation. Courses have been broadened and multiplied; subjects and requirements once thought absolutely essential and of first importance are now subordinated or eliminated entirely. The modern and well-equipped public school of to-day, with its diversity of courses, its manual training, its domestic science and household art, is a tardy and a partial recognition that the youth must be trained, not for a segment of life, but for the whole circle of human experiences. Our higher institutions have been somewhat slower to grasp this latter-day view; nevertheless at this moment all of our great universities and colleges are offering instruction in an increasingly large list of social activities.

This evolution of educational principles and their application seems only to have awakened the masses to the need of further advance and to the necessity of extending to all the people a more liberal and a broader training. The demand of the twentieth century is for a system of education that will develop and bring to the point of highest efficiency the whole boy.

In all this process of change it is most pleasing to note that the agricultural colleges have ever been in the van. The present and widespread call for industrial training has been anticipated and met, in varying degree, by these institutions. From the beginning they have exerted a profound influence in fostering and pro-

moting the doctrine that education does not begin and end with the head but extends to the hand. They are the pioneers in formal industrial training.

Such, in brief, is the attitude of the people toward our schools, and such is the answer of the agricultural colleges.

It was my fortunate privilege to be associated with this institution as a member of the Board of Regents for a period of eight In that time the number of buildings was doubled, the Faculty was greatly increased in numbers, and the enrolment advanced more than 125 per cent. The number of graduates of the institution during this period of eight years was more than the total number of graduates in the entire previous history of the institution. I came to know of the wonderful work it had accomplished in the past and of the valuable service it was then performing for the State. I discovered that out of the splendid raw material it received there was here fashioned a type of citizen that under any and all circumstances made good. I learned to appreciate to a degree impossible to forget the conscientious and helpful work of the Faculty, the rare and responsive spirit of the student body. and above all the value of a training that combines the cultural and the industrial.

This College occupies a field peculiar to itself. It is the rival of no other institution but is an important and powerful educational activity of the State. It represents an investment that yields returns of a thousand fold. But, however much it has done in the past and is accomplishing in the present, still more will be demanded of it in the future. This wonderful and complex age in which we are now living requires a kind and character of training on the part of its citizens such as the world has never heretofore known.

To accomplish this I sincerely hope that the entrance requirements may not be increased for many years to come. Let the doors of admission to this College swing widely and freely to every Kansas boy and girl and let the exit be so narrow that none but those who are worthy and well qualified shall receive the diploma of this school. I would lengthen the period of graduation for a degree if necessary, but never would I add to the difficulty of entrance. It is the glory of this institution that the sturdy sons and daughters of Kansas who may not enter other institutions of learning, because of a lack of high-school training, may here freely come and receive a training that shall be of inestimable value to them and to the State.

A splendid and a notable characteristic of this school is the democratic spirit that prevails. I have observed with great sat-

isfaction the simple and rational standards of its students in the past, and I sincerely trust that wholesome and sane rules of conduct shall govern in the future.

I congratulate the State, too, on the minimum of cost of her institutions. It is a wonderful showing when compared with other states. We cannot afford to quibble as to expenditures when we realize that the results represent an investment yielding the richest possible returns in intelligent and capable citizenship.

I trust, too, that the governing body of this institution will always stand ready to enlarge the sphere of the College activities as occasion requires. Every gainful occupation involving the interests of a considerable number of our people may well be the subject of investigation and instruction here.

Important, however, as are the material interests of the student and the State, the highest function of this and every other institution of learning is to make for good citizenship. It is just as important to provide for the leisure hours of man as to see to it that he is an efficient machine during the hours of labor. Culture must go hand in hand with productive power. Nor must it be forgotten that the supreme test, the fruitage of all effort, is character.

In full faith that the guidance and direction of this institution has been given into competent and capable hands, I take great pleasure in presenting to you, Mr. President, the greetings of 500,000 youth of this State and of the 13,000 teachers of our public schools. All unite in the confident expectation that under your administration the Kansas State Agricultural College shall go forward surely and certainly to greater usefulness.

This institution is only on the frontier of its possibilities. As time goes on may it become more and more the school of the people and may it be your happy privilege, sir, to realize your every ambition to perform for the youth of this State an inestimable service.

Greetings from the Farmers.

(Hon. F. D. Coburn, Secretary State Board of Agriculture, at inauguration of President Waters.)

President Waters: On behalf of the farmers of Kansas, and for myself personally, it is my great pleasure to salute you as the President of our Agricultural College, and at the same time to congratulate all our people, including this capable Board of Regents, upon the acquisition of one so competent for the work you are to undertake. Those for whom I am presumed to speak

believe this the morning of a new departure and an era of progress here not before approached.

The State's proudest boast has ever been the high order of her citizenship, and her next claim to preëminence is based on her husbandry. No commonwealth ever made more rapid advancement in a like period, and we are prone, with a pride that is proper, to speak of ours as a great State; yet it is but a babe in arms compared with the giant posterity it is to know. With such an environment there is small excuse for not having here the foremost agricultural college in the world; not merely in the minor matter of large attendance, but in real efficiency and worth. The promotion of a better husbandry in such a field, implanting manful and womanly character in the rising generation, and improving that farm and home life wherein our country's hope and safety must ever have their firm foundations, should be a congenial and sufficient task for the most ambitious.

Kansas is well equipped with many efficient schools for teaching all other essential branches, but here only is one set apart and especially designated as "agricultural;" the one where the word agriculture, like good Ben Adhem's name, should lead all the rest. Here, in the organization of a training force its foremost man and dominating mind should not only know agriculture, with its closely related industries, but in a broad way be their aggressive champion. Such sub-divisions as agronomy, soil fertility, the science of animal breeding and feeding, veterinary science, dairying, horticulture and forestry, botany, entomology, bacteriology, physics, farm architecture, chemistry, domestic science and hygiene, all strongly developed, belong here, in their appropriate relations, each with proper value, but there prominence need not bar or obscure other useful branches, including especially plain English—its reading, spelling and composition; matters of everyday use in which all too many graduates are distressingly, not to say disgracefully, deficient.

Students seeking education along lines not closely related to farm practice are amply provided for elsewhere; if they would study medicine, theology, law, pedagogy, advanced mathematics or literature, their place is not here, while those of an agricultural and home-making bent belong and can be trained here as is nowhere else intended or pretended.

The institution needs and its supporters believe it is to have in its new president a leader who knows and who sympathizes with their aspirations; who speaks the language of agriculture, and speaking comprehends. Not an agriculture that means simply the study of pumpkins and pigs, of plowing and planting, but the underlying and governing principles; an education away from the slovenly, haphazard, wasteful methods of to-day; a training that leads to more than mere subsistence through rape of the soil.

Your rating and record here will rest upon what you do for this institution and not what you may do in exploiting the defects of others. In the right conduct of this school your hands and head and heart will be entirely full, and wisdom will dictate that obtrusion into the affairs of other Kansas schools—their policies, curricula or appropriations—or acting on the theory that this is a competitor or rival of some other, requiring your interference, can work only injury to all.

Acquaintance with such schools in general, and with this one from its beginning, justifies the claim that no man ever entered upon a trust akin to this of yours with larger opportunities, more inviting possibilities, unmeasured and immeasurable, and richer promise than thickly strew the path of your new duty.

These certainly furnish mount and opportunity for great achievement. No man ever came to the service of a more responsive, appreciative people; a people more generously inclined toward employes who give value received, and no other people more accurately gauge, weigh, measure and value him who serves. It is for these and from these that I bring you greetings.

Greetings from the University of Kansas.

(Chancellor Frank Strong, at inaugural of President Waters.)

Honorable Governor, Regents, Faculty and Student Body of the State Agricultural College, Ladies and Gentlemen:

It gives me sincere pleasure to be present at these inauguration exercises and help do honor to the distinguished gentleman who is to be officially installed to-day as head of this great institution. I bring you the congratulations of your sister institution, the University of Kansas. We hope for the Agricultural College under the administration of President Waters a most successful career, a continued increase in the efficiency of the institution, and an enlargement of its work for the State of Kansas.

The Agricultural College has had a long and honorable history; its roll of alumni includes many eminent men who have made themselves influential because of their researches in science and because of their practical work in the development of the industries of the State. Of all this the College has reason to be proud.

To-day marks a new epoch in the history of the institution. undoubtedly marks the beginning of an even greater history; new lines of policy will be entered upon; new elements of greatness will be developed. In all of these things the University of Kansas wants to be cordial and helpful. It sincerely desires that the relation between the institutions may be upon the highest plane of reciprocal friendship. I therefore venture to hope that the watchword for both institutions in the years to come may be coöperation; that some definite terms of interrelation may be arrived at by which the resources of each institution may so far as is feasible be at the disposal of the other; that there may be worked out some practical method of interchange of teachers and general coördination of work, so that there may be an easy passage of students from either institution to the other; in short, that cooperation be writ large in the subsequent history of state higher education in Kansas. It may be done without any decrease in the autonomy, the power or the dignity of either institution, and will enable the two institutions, even now so closely related in fact, to do a greater work for the State of Kansas than we at present dream of. To this end I venture to hope, as representing, to some extent at least, higher education in Kansas, that there may be no backward step in the standard of maintenance of the Kansas State Agricultural College. That it may have at its disposal as great a per capita income as may be necessary to put it on a footing equal to that of its sister agricultural colleges, believing very sincerely that no state in its social, economic or civic life can rise above the level of its institutions of higher learning; believing that it is demonstrated beyond peradventure by the experience of a thousand years that cheap education makes cheap men and that there is no investment which yields so large a return as that which is spent in highly developing the moral and intellectual ability of the youth of a community.

I recently returned from the inaugurations of two presidents of prominent eastern institutions. One of these gentlemen is an honored graduate of this College. One can hardly visit such institutions as the Eastern universities without being again impressed by their great power and efficiency. They have all of that subtle influence which comes from a long and a great past. They are situated among great populations; the wealth of their communities is great; their whole equipment of buildings, apparatus, libraries, is enormous. And yet they belong in some considerable measure to the past. In spite of their wealth and greatness, in spite of their traditions and enormous equipment, the future does not lie with

them. It lies with us in the great Middle West. And I believe it is not too much to say that the great American university of the years to come is not going to be upon the Atlantic seaboard. It will be in the great Mississippi valley. And why should not the greatest and best education, why should not the purest democracy develop in this Kansas that we love? It is for us, therefore, who are working in a state whose history is so noble and stimulating, whose soil is so sacred to liberty, to see to it that we grasp the opportunity that lies before us.

Experiment Station to Start New Line of Work.

The Kansas Experiment Station has been authorized to employ the best wheat expert obtainable in the country to be put to work on the problem of better methods of handling wheat after harvest. Correspondence which the Director has received from mill owners in the past few weeks indicates that they are anxious that this work be started as soon as possible, some mill men pledging financial aid if such is needed to push the work.

Dean Webster, Director of the Experiment Station, has been making a close study of the wheat and milling industry of the State, and has become convinced that there is enormous loss resulting each year because of damage occurring in shock, in stack and bin, and in transportation and grading of Kansas wheat. The extent of the damage can be estimated only on close examination of the quality of wheat as it reaches the mill. It amounts to many millions of dollars in the past decade. The greater part of this loss might be saved to the farmer.

At the last meeting of the Board of Regents of the Kansas State Agricultural College, the Director of the Experiment Station was authorized to begin this line of work, which will be of such enormous value to the Kansas wheat industry. The work of the Station has heretofore been mainly in the line of wheat breeding and the determination of better cultural methods to increase the yield. The work along these lines has added millions to the revenue of the farmer, but it should not stop there.

Kansas has earned a world-wide reputation as a wheat-producing state. Kansas No. 1 Hard Winter Wheat stands at the very top in point of excellence from the milling and baking standpoint. Kansas mills are making a reputation that extends around the world for their flour made from the highest grade Hard Winter Wheat.

The name "Kansas" on a sack of flour should be synonymous with the best obtainable—not equal to the best, but THE BEST.

It is proposed to have the grain expert begin a systematic campaign along the following lines:

- 1. A thorough study of the handling of wheat after it is cut; *i. e.*, the shocking, stacking, threshing, storing on the farm, and the handling in local elevators as this practice may influence its market grade and milling qualities.
- 2. A study of the present system of grading as practiced by buyers, State inspectors, etc., and its influence on the general situation of marketing Kansas wheat. And
- 3. The eventual establishment of a State testing and baking plant of sufficient magnitude to make results reliable, and to have such a plant operated for the benefit of elevator and mill men.

This last line will be a matter of gradual growth as the necessity of such a plant is worked out.

A conference of the millers has been called for December 30 at the College to discuss the work in all its details. Many millers have promised to attend. This meeting will result in much good, and the Station and the milling interests will be brought into closer relation with each other.

It will require the united effort of millers and growers and Stasion authorities to make Kansas what she might be in this direction. But Kansas wheat and Kansas flour will lead the markets of the world. Kansas farmers and Kansas millers can do it.

Schoolhouse Campaign Ended.

To Prof. G. C. Wheeler, of the College Extension Department, the Industrialist is indebted for a report of the College's "schoolhouse campaign," conducted by the Extension Department. The results seem to indicate that it will become a most successful method of widening the influence of the College among the people of the State.

Six counties, Anderson, Linn, Leavenworth, Marion, Ottawa, and Doniphan, availed themselves of this opportunity to arouse more interest in better farming and home making among their inhabitants. In each county a schedule had been prepared by the county superintendent, who accompanied the lecturer from the College to the various schools visited. The teachers had sent word to the parents as to the expected visit and invited their attendance, and, in spite of the fact that farm work was pushing, many patrons were present at the schools visited. At one place

in Linn county 25 patrons were present. Twenty to twenty-five schools were visited each day, and evening meetings were held at the smaller villages and in some cases at the large country schoolhouses.

At the schoolhouses visited the speakers from the College put before the children in as simple and interesting a manner as possible a few important facts in connection with farm life. The fact that agriculture is a most important and honorable profession was impressed upon them, and their minds were directed toward some of the interesting and important things with which their home life is constantly associated. The evening meetings in nearly every case were well attended and splendid interest manifested in the subjects discussed. Miss Brown, who visited and lectured in Ottawa county on the various domestic science problems, reports that at some of the schools visited every woman in the community was present, the babies being left in care of the men of the family. Miss Brown assisted a lady in one home to make a "fireless cooker," and they prepared a part of the breakfast by it use.

J. C. Cunningham, of the Horticultural Department, visited Leavenworth county, and reports the keenest interest by the children in the various horticultural subjects as presented. He visited twenty-five schools and talked to 815 boys and girls, and in all addressed 1160 persons.

G. C. Wheeler, who visited Marion county, talked to the children of twenty schools on the subject of seed-corn selection, conservation of soil moisture, and plant growth, meeting in all 704 pupils and 60 patrons. At the evening meetings in this county 550 people were addressed at the five meetings held. The large number of young men present was especially gratifying. In this county the teachers gave splendid coöperation, supplying music and recitations as a part of the evening program.

Mr. Hinman, dairy specialist of the Extension Department, met the people of Anderson county, and Mr. Holsinger, horticultural expert, visited the schools of Linn county and held evening meetings during the week.

The interest aroused by these meetings cannot help but aid greatly in securing increased attendance at the various regular institutes to be held later in these counties. At many of the schools visited not a child knew of the various contests held at the farmers' institutes for the purpose of arousing the interest of the young in rural pursuits. Naturally they will talk of what they heard at home and the parents will be led to direct their thoughts towards the Agricultural College and the work it is doing for the farmers of the State.

The county superintendent, the teachers, and the county institute committees deserve the heartiest commendation for the energy they displayed in making these campaigns possible.

The regular institute work is taking the time of the Extension Department so fully at the present time that many requests for this form of county work were necessarily turned down. During March it may be possible to visit a number of the counties before the schools close for the year.

Mr. Holsinger visited Doniphan county the week beginning October 25, and this closed the schoolhouse campaign for the present.

The Cause of Pellagra Discovered.

If pellagra in man is the same disease as blind staggers in the horse, the cause may have been discovered. Investigators at the Kansas State Agricultural College have recently isolated a germ from decaying corn which forms a toxine fatal to horses and rabbits. It also produces many of the symptoms and lesions of cerebritis, or blind staggers in the horse. These seem to be the first positive results upon this subject.

It is generally conceded that blind staggers in the horse is an acute form of the same disease as pellagra in man.

Most investigators have confined their researches to the form of the disease as it occurs in man alone. The Veterinary Department of the Kansas State Agricultural College has proceeded upon radically different lines, aiming rather to strike at the origin of the trouble, keeping prominently in mind the principles applicable to human life and the tremendous significance of the disease in man.

Dr. F. S. Schoenleber in his recent report to the Board of Regents of the Kansas State Agricultural College said: "We have every reason to believe that the cause of this human scourge will ultimately find its solution through the research done in some veterinary laboratory in one of our great corn-producing states. All the scientific facts bearing on the subject of pellagra as described in a recent article in McClures, and more, have been recorded through experimental work done in the veterinary laboratory of the Kansas State Agricultural College months ago. There should be absolutely no reason why the opportunities afforded in the corn-fields of Kansas, which are extremely fertile in the materials for the work, should not be appropriated and the research pushed to at least international prominence, if not to a successful issue."

The work is being prosecuted mainly along three general lines: (1) A complete study of the micro-organisms occurring upon corn, with especial reference to their ability to produce toxines. (2) A corn survey of the State now being made to determine the species of molds and bacteria present upon the corn. (3) Extensive feeding experiments now in progress with corn affected with moulds and bacteria.

Minor lines of investigation are being pushed, and every precaution is being taken to safeguard the work at every step.

As an indication of the magnitude of these researches, it may be stated that several hundred samples of diseased corn from different sections of Kansas have been examined and the organisms causing these diseases determined. Over a score of molds and half as many bacteria have been found, some of them apparently new to science, many of them harmless to animals but causing a loss of hundreds of thousands of dollars to the corn growers in the State of Kansas alone because of diminished crops through barren stalks and damaged ears. One result of the work is the demonstration of the fact that hundreds of thousands of dollars might be saved to the farmers in the corn belt each year by simple rotations that would make impossible the growth of these corn diseases.

Doctor Schoenleber and Mr. T. P. Haslam and their assistants are pushing these investigations as rapidly as possible consistent with good work, and results will be anxiously awaited by the stock man, the corn grower, the physician, and the scientist.

What is to be a permanent exhibit exploiting the government's irrigated lands is to be established in Chicago this fall. The exhibit, which will be the first ever established by the government, will be in charge of J. C. Waite, settlement agent for the United States reclamation service. Displays of grain, fruit and farm products raised on the irrigated land, together with photographs and literature, will be established by Mr. Waite. The office of the settlement agent will be run on a business basis and a campaign of education regarding government lands will be conducted. The office will be a bureau of information to persons all over the country. A stereopticon will be used to give illustrated lectures whenever there is occasion for them.—Breeders' Special.

Local Notes.

The surveying squads are enjoying the use of two new transits and three new levels.

Herr Louis Szafian, an Hungarian student of agriculture, visited College last Tuesday to study our methods of seed breeding, wheat culture, and cattle feeding.

The new stokers in the boiler room are giving complete satisfaction. They are saving a considerable amount of fuel and labor, and are giving a more even power.

The Kansas State Agricultural College swamped Fairmount College (Wichita) last Saturday by a score of 71 to 0. The game was played on the Wichita field and was a funny affair.

Thanksgiving day was duly observed by the students and the Faculty, but as there was but one day of vacation only a small number could reach home to eat turkey under the paternal roof.

It is a fact that our popular football coach [Mike Ahearn] intends to resign at the close of this season and is emphatic in his intentions. The resignation is regretted by every student in College. It is a piece of news that causes regret from all quarters.

Supt. J. D. Rickman went to Wichita last Friday to attend a called meeting of the executive committee of the State Editorial Association, for the purpose of making arrangements for the next annual session of the Association to be held in Wichita February 14 and 15.

The following are the delegates who attended the State Y. W. C. A. convention at Winfield last week: Miss Hull, Jennie Williams, Hope Palmer, Josephine Robinson, Stella Soupene, Emma Lee, Mabel Davison, Rena Faubion, Lillian Lowrance, Grace Tucker, and Edna Willis.

Pres. H. J. Waters and Dr. J. T. Willard went to Chicago, Friday, to attend the annual meeting of the American Society of Animal Nutrition. President Waters is the chairman of the committee on experiments and a member of several other committees. Doctor Willard is registrar of elections.

Asst. Ella Weeks, of the Department of Architecture and Drawing, went to Lawrence last Saturday to attend the funeral of her cousin, Professor Wheeler, of Illinois State University. Mr. Wheeler was a graduate of the University, but he had also been a junior student at this College and is remembered here as a very bright and talented young man.

The football team rounded out its season by defeating Washburn on their field at Topeka on Thanksgiving day by the decisive score of 40 to 0. This gives the team a total of 320 points to 11 made by opponents, an unprecedented record. Too much credit cannot be given Coach Ahearn for his work with the team, and it is the earnest desire of Faculty and students that he remain coach of the athletic teams of the College.

The Department of Architecture and Drawing has lately added two new assistants to its teaching force. Mr. Frank C. Harris, B. S. '08, has been elected by the Board to fill the vacancy caused by the resignation of Asst. Frank Grazier, and Miss Charlotte Morton, B. S. '08, was elected as an additional assistant in free-hand and object drawing. Mr. Grazier was a graduate of Pennsylvania State College and a talented young man, but he had trouble with his eyes and was advised by his physician to quit teaching and take up farming, or some other occupation that would give him outdoor exercise.

The College was well represented at the Thanksgiving game at Topeka. Both railroads, the U. P. and the C. R. I. & P., ran extra trains for the accommodation of the Agricultural College, and over five hundred students and teachers, accompanied by the cadet band, went down to see the expected victory of our boys. Enthusiasm ran high. When the returning trains reached Manhattan the rooters lit bonfires, hauled Mike Ahearn, in a lumber wagon, to his home, serenaded the President and then made him promise that there would be no class exercises Friday morning. Forty to nothing is certainly a creditable score—it was a famous victory over our old rivals. Hurrah!

The Mechanical Department has commenced the work of installing a new generating set of steam turbine and dinamo in the power-room. The steam turbine will be a 300 horse-power DeLa Val engine. It was built by the DeLa Val Steam Turbine Company, of Trenton, N. J. It will be directly connected with twin generators having a capacity of 200 kilowatts, which will furnish a direct current of 220 volts. The turbine will be used without a condenser, but it is planned to move it later into the new engineering building and to connect it with a cold water condenser. The present engine and dynamo, which has a capacity of 100 horse-power, will be used to furnish power in the summer and in the night when the requirements will be small.

Alumni and Former Students.

W. F. Lawry, '00, formerly with the Link Belt Company, of Chicago, has recently accepted a position with the Jeffrey Manufacturing Company, of Columbus, Ohio, at a considerable increase in salary. His address is 1066 Neil Avenue.

Kate Zimmerman, '00, is now teaching in the high school of Sumpter, situated in the Blue Mountains of eastern Oregon, where she says she may hear the cries of the hungry cougar and the yelping of the coyotes and see the tracks of the grizzly and deer.

Jessie M. Hoover, '05, is entering upon her work as professor of home economics in the Agricultural College of North Dakota with much pleasure to herself. Her work has apparently commended itself to the Board of Regents also, as she has just been elected Dean of Women.

Board of Instruction (concluded).

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THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., DECEMBER 4, 1909.

No. 8

Greetings from Colleges and Universities Outside the State of Kansas.

(Walter Williams, L.L. D., Dean of the School of Journalism of the University of Missouri, at inauguration of President Waters.)

I bring you greetings from Missouri.

The delegate from Missouri feels as it might be expected any man would feel who was called upon to congratulate the more successful suitor of his sweetheart.

I bring you greetings from the sisterhood of colleges and universities outside the State of Kansas—called sisters because they are governed by men. There are no state lines in the republic of letters, no separating boundaries in the realm of education. Upon your choice of a president, cordial congratulations from them all.

I bring you greetings in special sense from the University of Missouri. She is the alma mater of the strong young man whom you to day set apart to the presidential office. He is her child. To her he gave years of important, faithful service. That which he has done for Missouri he will do for Kansas—and more—because of the ripe experience and the broad training that is his. He practically created, by his earnestness, enterprise, and untiring effort, the Agricultural College of the University of Missouri, from which your foresight called him here. You could have found no man better fitted by temperament and training, by experience and personality, for the high duties which he undertakes. In the mother's name, to her son, and to the institution over which he presides, greeting and felicitation.

It is a great work, the administration of the presidency of this College with its almost boundless potentialities. Kansas is the tiptoe State, standing on very tiptoe of readiness to grasp things newest and most desirable. Here is the very edge of opportunity, the very fringe of the future.

Splendid the material resource of the America of to-day. It is

the world's treasure chest, it is the world's granary. With but one-twentieth of the world's population, it produces one-third of the world's food. Among all the nations Uncle Sam has the best business stand. Yonder is the Pacific, the great globe's midland sea, the Mediterranean of the world, for around it the world's peoples are—and America commands the Pacific. No other nation may so mobilize its resources and its reserves. Just yonder is the Missouri river, part and parcel of a great network of waterways, which to-morrow is to make this food belt more cheaply accessible to the world. No other nation has such base of supplies, none other such avenues of commerce thereunto.

You mistake when you represent Uncle Sam, as the cartoonist does, a lean, elderly gentleman, with gray hair and keen eyes. He has the keen eyes—yes—but he is strong and active and just entering the very prime of life.

The American is the teacher of the world, its banker, its statesman, its leader, its lord. He has gathered into one race all the best qualities of the people of the past. He has the religious fervor of the Jew, the individuality of the Greek, the executive ability of the Roman. Upon a broader field his energies have scope. Where the Jews had Palestine—the size of New Hampshire—and the Greeks Greece—as large as Maine—and the Latins the Roman Empire—smaller than Montana—he has one-seventh of the world's surface and is after more. A greater than Greek or Roman, Scythian, Babylonian, Jew, is here, the American-mightiest of people since first the Almighty made of man a living soul. moral power, in education, in invention, in the work of man's hand and the work of man's brain, where is the equal of the American? Our system of government, seamed as it sometimes is with inequality and oppression, is the best yet devised by wit of man. Our system of education is but preliminary to that which it may become.

Of all America the broad bosomed West is the richest land. No product of any country can not here be grown. Five-sevenths of the United States is west of the Mississippi river. We could swallow the East and all Europe beside. The eighty million inhabitants of the United States could be buried in this single Kansas county, in graves six by two. It is as far from the state of Washington to New Orleans as from London to Constantinople and half back again. It is farther from the Red river of the north to the Rio Grande than from Gibraltar's walls to the extreme north coast of Scotland. And into this immense area all nations of the earth will pour their teeming peoples. There is room for all and

unfeigned welcome for their best. When the West is as densely populated as the East, it will contain not sixteen, but a hundred millions of people.

For the bread and butter of these hundred millions of people the agricultural colleges of this western land are hostages. Except as the colleges fulfil their mission along thoroughly practical lines, the people suffer. The bread loaf shrinks in the ultimate consumers' hands. It is for these colleges to make two blades of grass to grow where one had been, to add to the fatness of the land, to make bigger the red barn of the farmstead, and to render certain and more profitable the crops sold or stored therein. Among the nation's schools they first teach bread-winning, the science and the art of agriculture, and the arts and sciences thereto allied. And, beyond the selfishness of individual bread-winning, they teach addition to the wealth of all the state, the making great the commonwealth.

Here in the Central West are to be solved for all the world the great problems of agricultural education. The Central West has these problems for its own. The coast states have special problems, special work, but here in the Central West is the agricultural laboratory of the republic—nay, of the world—in which the vexing problems are to be worked out for the good of man everywhere.

The emphasis of study has changed. In the '70s it was upon English; in the '80s upon physical science; in the '90s upon manual training and laboratory work. Now, in this first decade of the twentieth century, emphasis runs quick beside the industrial, vocational—the bread-and-butter—upon the social sciences—the bread-and-butter for the other fellow—the accent is upon the art of living. Hence the agricultural college must teach the art of living, the finest of all fine arts, of living on farm and in shop, in home and church and state. Man may not live by bread-winning alone.

If the state school is the child of the state, so must it be the servant of the state. In the alphabet of national wealth the first word is "agriculture." He who promotes agriculture makes for larger greatness. Right at home lie the agricultural problems, conservation, utilization, transportation. But your Agricultural College has larger problem and greater mission. It is here, if I mistake not, not merely to increase the quantity of the crop, but to increase the quality of the growers of the crop. It is here to promote intensive farming, that there may be from Kansas fields more abundant harvest—yes. But it is here also and more, to

promote that which shall give to every farmer in the State of Kansas and to every farmer's wife and to every farmer's son and daughter, beside the more abundant harvests, the more abundant life. If the harvests from the soil are not transmutable into terms of service for the higher things of the spirit, no insistence upon the practical can keep the College work, in last analysis, from dismal failure.

Is such education expensive? Its cost matters not. Your prudent business man does not inquire the cost, but the profit. Does agricultural education pay? What are the dividends? Does it pay to add to the yield of Kansas farms? This College has paid for itself many times over in actual crop yields made possible by its research and experiments. It has paid yet more in the broadening of mental and spiritual vision, in the development of the rural home. And that it will do much more—those who know Kansas and are acquainted with your new President and his associates confidently expect. These men and women, strengthened in mind, body and spirit—these are to be the dividends that the College pays, the returns upon the State's investment.

That this result may come about there must be adequate, unwavering support for the new administration. Not merely financial support—though that educational institution does the best work which has the largest sums of money with which to do its work, provided each dollar be honestly and efficiently administered. It is not the money put in, but the men and women taken out that determines the wisdom and economy of expenditure. Support is financial, but support is also moral. The administration will need—should have—the moral support of the Governor, the legislature, the Board of Regents, the people of Kansas, the Faculty, students and alumni of this great school. It is the people's school, it must have the people's support.

There cannot be swift fruitage for the best. We who hope such large things for education are too apt to forget the inexorable laws of growth. The June strawberry stands close to the January snowdrift. Hence we ask for quick returns upon every investment for education. The mushroom grows in a single night, but not so the star flower hung in the blue vase we call the sky. Be patient with the school-master that his product may be worth while.

Again, there must be soil and atmosphere and time for the best harvest. There is the soil in the great and growing student body; there must be the atmosphere of a state's friendliness; there must be time for the accomplishment of large plans, for opportu-

nity for the greatest service. With good soil and wholesome atmosphere and time sufficient the fullest flowering is assured. The teacher's work may not be estimated by weight and measure, by rule of thumb. We may not see the nitrogen laid at the root of the plant. We see only the full-blown rose and know its perfume.

Most valuable is education because through it training comes for usefulness. The battles of the world in peace and in war are won by the trained men. The only position which can be successfully held without training is that of idiot. The school of Experience trains some, through hard years and dearly. The schools of the state give different and larger training. Foundations of great states are not laid in ignorance. Education is fundamental to a state's leadership. The schoolhouse must be every state's first care. Where there is no open vision the people perish. Where education liberally supported by a free people flourishes, the republic lives and prospers.

Education is no longer for the few, but universal. If there are fewer mountain peaks of scholarship, the plateau of general intelligence is higher and larger. The ignoramus is discredited and the idiot locked up. Education is offered to all the people, its scope broadened, and its aims, basis and content changed. It is not the mere storing up of the mind, but it has become the training of the faculties. It was once for mystics, it is now for men. It once took men to the cloisters and women to their knees. now strengthens men for the farm and the market-place and women This Agricultural College suggests that while for the home. it is cultural, it is vocational also. Education trains for life, the laboratory of humanity, no longer merely for hermitage. I note with pleasure the presence of young women at this school. gentler sex was unschooled in the bad old days. The daughter went perhaps to a dame's school or later to a miserable excuse for a seminary, but as for learning anything—bah! If a young girl knew a Greek verb from a Latin pronoun, she was thought to be A strong-minded woman in the old time was strong-minded. looked on with dire distrust or hanged as a witch. Now women are the senior wranglers at college, if not at home. So far as I am able to observe from looking at this audience, they do not lose their witchery by peering into books. The schoolhouse for man and woman, for poor and rich alike, has its latch-string on the outside.

It was the prince of American essayists, George William Curtis, who said: "There is no sophistry more poisonous to the state, no

folly more stupendous and demoralizing than the notion that the finest character and the highest education are incompatible with the most commanding mastery of man and the most efficient administration of affairs."

I recall that the sneer at the book farmer by the ignorant falls to the ground, and that the sneer at the scholar in politics is the sneer of the demagogue plotting some new treason against the state. Since the days when Themistocles led the educated Greeks at Salamis, to the battle when Von Moltke martialed the educated Germans against France, to the last great war, when a Yale college graduate led the educated Japanese against the untaught Muscovites on the cruel fields of Manchuria, the world's wars, as well as the world's triumphs in peace, have been won by trained men.

The students of the state 's school will be taught in largest degree to show the patriotism which means the common good. They will find that the interests of all Kansas are woven into one, that "as agriculture thrives, as commerce prospers, as manufacture plies its skillful hand, as labor is employed, as capital casts its bread upon the waters to find return after many days, so year by year with accelerating swiftness will come accumulating upon Kansas and upon all the state bears and adopts, a finer, freer life, a literature wider spread, the works of science and philosophy in the shepherd's hands, the canal boy's dream realized, in a great state founded upon the independent suffrages and in the hearts of a free people."

In olden time there was race from Marathon and games under the shadow of Olympus. But with every busy citizen of the state are our Olympian games. "The races we run are with the head and not the feet, the wrestling matches are not with human sinews, but with the forces of nature grappling, under the direction of human skill, with the fibres of the field, with the inertia of ores, with wood and stone, not to fling them to the earth, but to raise and train a million hand-servants of usefulness and luxury, and the prize is not in a fading olive wreath, but that perfection of blessing, that dream of all other lands and lots—an American rural home."

I bring then, Mr. Chairman, the mother's blessing to her son, coupling in appreciative regard his good wife also. I bring the congratulations of the sisterhood of colleges and universities and to it all I add, for President Waters and the Kansas State Agricultural College, my own personal meed of praise and heartiest Godspeed.

The Duty of the Nation and the State to Agriculture and the Industries.

(Congressman Charles F. Scott, at the inauguration of President Waters.)

Governor Stubbs, President Waters, Ladies and Gentlemen:

I count it a high privilege and a great honor as it is certainly a great pleasure to be present on this occasion and add my voice to the glad chorus with which you acclaim the inauguration of the distinguished educator and the great man who is to sit in the executive chair of this great institution. I feel a peculiar personal pleasure in the event of this day for the reason that I can claim some small share of the credit due to those who made it possible. (If President Waters has a deaf ear I trust he will turn it in this direction, for I have a confidential communication to make to this audience which does not in the least concern him.) Sometime last winter I received letters from members of your Board of Regents asking me to suggest the name of some suitable person for the presidency of this College. Fortunately I learned early in life that the man who knows where to go for information is quite as likely to be well informed as the man who tries to know it all himself. I therefore carried these letters to Secretary Wilson, the great man who presides over the Department of Agriculture with such signal ability, and who is in closer touch perhaps with the scientific agriculturists of the United States than any other man in our country, and put the question up to him. His reply was prompt and emphatic. "The best man in the United States," he said, "is Waters, of Missouri." "But," he added, "I have no idea you can get him." "Don't worry about that, Mr. Secretary," I responded; "what Missouri has that Kansas wants, Kansas goes and gets." The event which this day celebrates is proof that the confidence thus expressed was not misplaced. And I think I may add that in this one successful raid which Kansas has made upon Missouri we have evened up a lot of old scores.

Just what arguments your Board of Regents were able to make that persuaded President Waters to accept their call I do not know. But I have an idea that "Kansas" had a good deal to do with it—the appeal which Kansas has made from the beginning to men who like to be where something is always going on. I have an idea that this young, energetic and ambitious man was glad of the chance to identify himself with this young, energetic and ambitious commonwealth; that he wanted to come to a state which everybody in all the world knows. You remember Noble Prentis remarked once

that if man should travel by balloon and drop down suddenly into the darkest jungle of darkest Africa and call for three cheers for Kansas, some one would be there to give them. And I think President Waters wanted to come to a State that will live forever. "Of all the States," our unlaureled Poet-Laureate once observed,

> Of all the States, but three shall live in story— Old Massachusetts with its Plymouth Rock And old Virginia with her noble stock And sunny Kansas with her woes and glory.

The woes are all in the past, thank God. They have become a part of that heroic and romantic story which we read with pride and smiles and tears. But the glory is all about us now and will grow brighter and brighter with the coming years. I believe this new President of yours, looking across the border, could see this coming glory and was eager to do his share in bringing it.

But most of all I believe it was the call to service, the challenge to come over and do a man's work, that must have offered the most powerful appeal. Here was this noble institution, founded upon the basic industry of a great State, buttressed by the support of a million and a half people, equipped at every point for a career of illimitable usefulness, demanding in its executive head enthusiasm that would never flag, courage that would never fail and industry that would take no account of the hours of toil. What stronger appeal could there be to a strong man than this opportunity for unending work. It stands written that when Saul of Tarsus was hidden away in that inner room in Damascus, crushed and broken and blind, the Master sent one to him with a message. A message promising comfort and peace and ease? Oh, no! "Go show this man what great things he must suffer for my sake." The Master knew the man. "What will you give us if we follow you," was the demand of some mutinous soldiers of Garibaldi at the very crisis of his career. "What will I give you?" And we can imagine the scorn with which the old battle leader flung the question back into their teeth, "What will I give you? I will give you long marches and hard fare and bitter sieges and battle and wounds and maybe death. That is what I will give you. Follow me!" And they followed him because the challenge to the fighting spirit was one which no soldier could resist. And so I think the call which sounded loudest in the ears of President Waters was a man's work calling for a man.

For it is a man's work that is waiting for him here, an opportunity for immeasurable service. It is not a new President only that we are inaugurating here to-day; it is a new era for this College and

this commonwealth. The work this institution has to do is only just begun. In every direction stretch out new fields for it to enter, of usefulness to the State, of uplift and power to all the people. Already there are gathered here two thousand young men and women from the farms of Kansas, and in the years that are before us thousands more will come, and to them all the President of this institution will stand as an example, an encouragement and an inspiration. What will he give them?

First of all and most of all I hope he will give them a pride in I do not believe they have that pride now. their calling. I fear that many of them look upon farming as dull, tiresome, unskilled drudgery, which no one follows except through dire neces-It is the mission of this College and of its President to Think for a moment of the stupendous aggrechange that view. gate which agriculture contributes to the wealth of the nation. We have heard a good deal in the last few years of the concentration of the nation's wealth in the hands of a few; and some of us have worried about it. But that worry will cease if we will but study the farm statistics for a little while. These statistics show that in fifteen days the earnings of the American farmer would be enough to buy out Standard Oil. In fifty days they would wipe the Steel Trust off the map. A single American harvest would buy the Kingdom of Belgium, King and all, two would buy Italy, three would buy Austria-Hungary, and five would take Russia away from Talk about swollen fortunes! The crumbs that fall from the farmer's table in the shape of his surplus products shipped to other countries would replace every mile of railroad in the United States in fifteen years. The corn crop, alone, in that length of time would replace the banking power of the United And I believe Secretary Coburn has figured it out that the little helpful hen could pay off the National debt in fifteen months. In comparison with the earnings of the American farmer the record of dividends paid to Rockefeller and Carnegie and Gould sounds like the short and simple annals of the poor. should a man not have pride in a calling which from the day of the first gardener, Adam, down to the present has been the one industry which has made all other industries possible!

I have been asked to talk about the "Duty of the Nation and the State to Agriculture," and I do not know how better to declare what the Nation and the State should do to promote this great industry than to discuss what they have done and are doing. If the question had been asked of the average farmer a few years ago, What is the general government doing for agriculture? the

answer most probably would have been: "It sends us a package of garden seeds every year-provided we stand in with our congressman." But that answer would hardly be given anywhere now, for the Department of Agriculture which the Nation maintains at Washington has extended its activities so widely that nearly every farmer has been the beneficiary of its helpful influ-Through its Weather Bureau, forecasting the weather with singular accuracy and giving timely warning of floods and frosts: through its Bureau of Animal Industry safeguarding the health of the people and providing a market for our surplus meat products through its inspection service, safeguarding the health of our flocks and herds by stamping out contagious and infectious diseases; through its Bureau of Plant Industry, scouring the world for new varieties of seeds and plants, studying and combating plant diseases, instructing the people in better cultural methods, and in a thousand ways helping to make farming more profitable and farm life more pleasant; through its Forest Service, not only preserving from destruction what remains of this part of our National wealth, but spreading the knowledge of how this great resource may be used without waste and be made to contribute to other resources; through its Bureau of Entomology waging ceaseless warfare upon injurious insects; through its Bureau of Chemistry adding the aid of that science to the farmers' resources; through its Bureau of Publications, printing and distributing among the people millions of documents containing the results of scientific research and experiments conducted solely in the interest of the farmer; through its Office of Good Roads, testing road-making materials and offering the services of the most highly trained road building experts in the work to any community that may wish to avail itself of them-through all these and almost innumerable other agencies the great department is extending the helping hand of the Nation to the Nation's greatest industry.

But the general government has not stopped with the establishment and maintenance of the department at Washington. It has gone into every state and territory in the Union and has established colleges such as this, supplementing them with experiment stations, and thus encouraging the states to take up and carry forward the work with an attention to local conditions and requirements which could not be given through Federal agency alone. And it is in building upon the foundation thus laid by the Nation that the duty of the State lies. I am a Federalist of the Federalists and the term "States' Rights" has never sounded very pleasantly in my ears. But there are state duties and state responsi-

bilities which I do not believe the states can shirk or evade. There are many problems affecting the agricultural interests of the Nation which extend beyond state lines and can only or at least most successfully be studied and solved through Federal agencies. But there are other problems which are peculiar to the states in which they exist, and these I believe the states should There is perhaps a "twilight zone" where it may be a little difficult to draw the line of state and Federal duty or responsibility, and touching these the master word should be cooperation as defined just now by Chancellor Strong in discussing the relations that should exist between this College and the State Uni-I would have the Department at Washington and the state colleges and experiment stations understand that they are both the servants of the same master and that the interest of the people is the one consideration which should be paramount with There is not only glory enough for all but there is work enough for all who are engaged in the great enterprise of helping to make two blades of grass where only one grew before.

But the field of discussion which my topic suggests is illimitable and I cannot enter it further at this time. My chief purpose in coming here to-day was to join in the felicitations of this occasion and to bring greeting and congratulation to the Regents, the Faculty and the student body of this splendid institution. President Waters, that you will permit me to bring greeting and congratulation to you also. I hold no commission to speak for all the people of Kansas, and yet I know that I express their sentiment when I bid you welcome and pledge you their loyal encouragement and support in the work that lies before you. trust you will not misunderstand me, sir, when I add that I congratulate you upon the magnificent opportunity which your induction into the executive office of the Kansas State Agricultural College places within your grasp. It is a great thing to be the servant of a great people, to hold a position which has within it the possibility of adding to the prosperity and happiness of innumerable homes and of making innumerable lives fuller and richer and more worth living. The knowledge that you do occupy such a position cannot but appeal to all that is purest and noblest and best in heart and soul and mind, and we do not fear that you will We give you our absolute confidence and we know that in return you will do what lies within the power of one man to do, to make this Agricultural College what the people of Kansas desire and believe it will one day become—the greatest Agricultural College in the world.

Local Notes.

Over one-fourth of the \$800 in prizes to be given at the Kansas Corn Show at the Agricultural College, December 27 to January 1, was contributed by Manhattan business men.

Miss Gertrude Warner, assistant librarian, left Manhattan last Monday night for her home in Indiana. At the opening of school Miss Warner suffered a severe attack of pneumonia and has never entirely recovered. She will probably return after a few weeks' stay at home.

Doctor Greeder, the bacteriologist who will have charge of the hog-cholera serum laboratory of the College, will probably arrive here from Ames, Iowa, December 6, which is a week earlier than was announced by the papers of the State. The professors of the Veterinary Science Department say that in about three weeks the serum will begin to be distributed, though at first only small quantities will be given out.

At the great National Corn Exposition at Omaha, December 6 to December 18, the people of the great prairie states of the West will be shown what Kansas can do in the production of corn and cereals. Last year the exposition was visited by over 150,000 farmers, and this year the attendance is expected to be much larger. The Kansas exhibits will be collected, shipped and installed under the direction of the Agricultural College. Forty prizes are offered for Kansas corn, twenty-eight for Kansas wheat, and thirty for Kansas oats.

The College has again been victorious. News comes from Chicago that our two-year-old Angus steer, "King Ellsworth," won the grand championship as the best steer in America, at the International Stock Show, and that one of our yearling Angus steers stood second, winning the reserve or second grand championship. No other exhibitor ever before won both of these honors. We can also report that our senior team in stock judging, in competition for the J. Ogden Armour prize at the International Live Stock Exhibition, made a total of 4940 points and won fourth place among the teams of the American Colleges. The team was chaperoned by President Waters and Professor Kinzer. Details of the contests will be published next week.

Farmers' week at the Kansas State Agricultural College will this year be held December 27 to January 1. The program has not been fully announced as yet, as each department of the College selects its own program and all have not yet completed their arrangements for speakers. During the week there will be held meetings of the Boys' Corn Growers Association, Girls' Home Economics Club, Kansas Corn Breeders' Association, County Institute Presidents' Conference, Kansas Dairy Farmers' Conference, State Draft Horse Breeders' Association, Kansas Sheep Breeders' Association, State Creamery Men's Conference, Kansas Swine Breeders' Conference, County Surveyors' and Engineers' Conference, Manhattan Poultry Association, and the Kansas Millers' Conference. Other meetings may be called to meet at the College that week. A full program of exercises will be published in the next Industrialist.

Alumni and Former Students.

S. R. Vincent, '94, and Mrs. Vincent, Deer Creek, Okla., are happy in the birth of a son, November 22, 1909.

John W. Calvin, '06, who has been employed for the last year and a half in the Institute of Animal Nutrition, Pennsylvania State College, has been elected to an assistantship in the Chemistry Department. He will begin work here with the beginning of the next year.

Ruth Mudge, '01, and Dr. William W. Dimock were married at the residence of the bride's parents in Manhattan, Saturday, the 27th of November, by the Rev. O. B. Thurston. Doctor Dimock is a member of the Faculty of the veterinary division of the Iowa State College. The best wishes of many friends accompany the young people to their new home.

In a letter of regret because of her inability to be present at the installation of President Waters, Agnes (Fairchild) Kirshner says: "I recall the crisp evening thirty years ago when the Faculty welcomed my father and his family. And I recall, too, how the grounds lacked most every beauty they now possess. They resembled a Dutch farm with a road straight through the middle and old-fashioned stiles for foot passengers. No heart longs more to see the College attain true and lasting success than does mine."

E. C. Gardner, '04, has located in the Rogue River Valley, Oregon, and will set out pears and apples on one hundred and sixty acres of good orchard land. He studied fruit conditions on the Pacific coast from Los Angeles, Cal., to Wenatchee, Wash., before locating. He thinks that country affords untold possibilities for a young man. The ordinary press has by its accounts of the athletic victories of the College aroused in Mr. Gardner his old enthusiasm and he needs the Industrialist to keep him in closer touch with Alma Mater. His address is Talent, Ore.

Changes of address: Gertrude (Coburn) Jessup, '91, 1348 West 64th street, Chicago, Ill.; Martha (Fox) Smith, '97, 721 Pierre street, Manhattan; R. G. Lawry, '03, 219 West 72nd street, Chicago, Ill.; Chas. R. Hutchings, '94, Velardeña, Durango, Mexico; William Anderson and Hope (Brady) Anderson, '98, 261 Florence Avenue, Houghton, Mich.; R. B. Mullen, '02, Men's Dormitory, University of Washington, Seattle, Wash.; Glen E. Edgerton, '04, Washington Barracks, Washington, D. C.; Dora (Thompson) Winter, '95, Rosedale, Kan.; Victor L. Cory, '04, Bureau of Plant Industry, Washington, D. C.; Jessie Marty, '08, Hastings, Neb.; J. L. McDowell, '92, Elkton, Colo.; Lorena E. Clemons, '94, 1105 W. Yakima Avenue, North Yakima, Wash.; A. E. Blair, '99, 602 Kentucky street, Lawrence, Kan.; J. W. Harner, '00, Box 56, Carrizoza, N. Mex.; A. S. Stauffer, '04, 1626 Boulder street, Denver, Colo.; Otto Hanson, '05, 407 N. Washington street, Wichita, Kan.; D. M. Ladd, '01, 5490 Monroe Avenue, Chicage, Ill.; T. M. Wood, '06, and Grace (Enfield) Wood, '05, 316 W. Kansas Avenue, Pittsburg, Kan., Philip Fox, '97, Dearborn Observatory, Evanston, Ill.

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THE INDUSTRIALIST

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No. 9

The Duty of the Agricultural College.

(Inaugural Address of President Waters.)

A quarter of a century ago the sort of education for which the Kansas State Agricultural College stands was in its experimental stage. Its right to a place among the well-directed efforts of our people was seriously questioned.

That in this brief period these agricultural and mechanical colleges should completely break down opposition, allay prejudice and come into a commanding position, was beyond the hope of even their most ardent advocates.

"The influences which were set in motion by the passage of the Morrill Act have already developed a new education." President Schurman, of Cornell University, recently characterized the founding of the land-grant colleges of America, through which universal industrial education was made possible, as the third and perhaps the greatest epoch in the educational history of the world.

The impress of these institutions upon the systems of education has been no less important than that upon the industries themselves. From the very beginning the instruction in the mechanic arts and engineering was successful, and the men engaged in these industries were quickly brought to a realization of this fact and accepted in full confidence the college-made engineer.

While in the public discussions leading to the establishment of these colleges, agriculture received chief attention, yet when they were organized few students applied for instruction in this subject, and for many years little impress was made upon the farm practices of the country. It is, in truth, only within the last decade that a system of instruction and research has been developed and perfected that is shaping the policies and destinies of this, the oldest and most important occupation of man.

It was one of the most fortunate circumstances connected with the creation of these colleges that the act of Congress bringing

^{*}Pres. W. E. Stone, semi-centennial celebration of Michigan Agricultural College.

them into existence was comprehensive enough with respect to their purpose and objects to admit of the teaching of a wide range of subjects. The comprehensive charter with which they were vested permitted of extensive experimentation in courses of study, a wide adaptation in subjects taught, arrangement of courses, methods of instruction, etc. Untrammeled by tradition, they were free to make experiments in the subject matter taught, as well as in the method of teaching it.

Broadly speaking, there has been assigned to this class of colleges, in the natural division of labor, the great industrial problems of our people, including the development and conservation of the material resources of the country, as well as the great economic and sociological questions affecting the industrial classes.

As interesting as the history of the development of these colleges is, and as rich in history as this particular member of the group is, on an occasion like this a glance into the future is perhaps more appropriate, for it is there that our problems lie.

COMPETITION IN EDUCATION.

The American ambassador to Great Britain recently facetiously referred to our educational system as America's chief industry. In other ways it is frequently suggested that in this matter the rate of growth has been out of proportion to our development in other directions and beyond our real needs.

Of the eighteen million children in the graded schools in the United States to day, less than a million, or less than one in twenty, will ever matriculate in a high school or an academy. Moreover, of the nine hundred thousand pupils in the secondary schools, only about two hundred thousand will be enrolled in our colleges and universities, or approximately one out of every four.

It requires, therefore, approximately eighty pupils in the grades to supply one college or university student. Less than one in five of these college and university matriculates graduate. Therefore, over four hundred graded school pupils are required to furnish one college graduate.

Of more significance than all this is the fact that seven out of every eight of the boys and girls of the United States leave school between the fifth and sixth grades and go out into a world of splendid opportunities without the training and intellectual power to enable them to take advantage of these opportunities.

It would not seem, in the light of these facts, that there was much serious competition in education. In fact, it does not appear that we are doing very much to break down human ignorance and overcome human prejudice.

TAKE THE COLLEGE TO THE PEOPLE.

While it is of paramount importance that the college give thoroughly sound instruction to the young men and young women in residence, it is equally true that its activity must not end here. More and more must the college be carried to the people. At best, but a small proportion of those who should avail themselves of its advantages can leave home.

Farmers' Institutes.—This phase of the College work, as it affects the farmer, is already well organized and bringing splendid results. Through the farmers' institutes, farmers' conventions, instruction trains, demonstration farms, etc., the whole State is being reached. It is expected that the representatives of the College will this year come into personal touch with fully seventy-five thousand farmers and farmers' wives, or more than one out of every three farmers in Kansas. It is possible that it will soon be found necessary to offer courses in agriculture and home economics of varying lengths in different parts of the State, to accommodate the increasing demand for instruction in these subjects on the part of those who can not leave home.

Outlying Experiments.—It is not sufficient to conduct experiments at Manhattan and Fort Hays and call the problems finally settled in accordance with the teachings of these results. Kansas is a large state, with a great variety of soils, and great variation in rainfall and in plant and animal adaptation. As soon as funds for this purpose can be provided and the work so organized that it may proceed in each case along lines that are fairly certain to yield profitable results, there should be instituted systematic tests or experiments in every county in the State. This will be found profitable not only because of the exact information secured, but by reason of the greater confidence which the farmers will have in the results, because they were secured under conditions which they recognize as identical with their own.

Then, these experimental fields may also serve an exceedingly valuable educational purpose, by being so planned that they demonstrate some point in agricultural practise of especial importance to the community in which they are established.

Farm practise is developing at so rapid a rate and so many methods are being found to succeed well under one set of conditions and not under another, that for the individual farmer to try, at his own expense, all that good judgment indicated might be worth trying, would mean that his farm must become an experiment station instead of a business enterprise. It is, therefore, the business of the State and federal government to put these

things to the test for him, and under conditions closely approximating his own.

become interested in the conservation of our resources. A young nation, like a young person, is proverbially profligate of its resources. Ours has been a waste of the resources of soil and forest and stream that is without parallel in the history of the world. This waste has been largely due to improper systems of farming, and cannot continue another century without bringing ruin to America's basic industry. Under the teachings of institutions like this, larger returns may be secured without depleting the soil than are now secured under a system of land spoliation. This is a matter of concern not only to the landowner, but to the whole of society, since the future welfare of our cities and factories and churches and schools is directly dependent upon the returns from the farm.

We are now in a frame of mind to consider methods of checking this waste. The first step is to take account of stock. The Kansas landowner needs to know what types of soil he has, what amount of plant-food each contains, to what each is best adapted, and how it may be managed to yield the largest return without having its productiveness diminished. The College should at once organize a State soil survey, and push it toward completion as rapidly as the facilities provided by the State and federal government will permit. This is fundamental to all agricultural progress. Later, surveys of special industries or crops should be instituted, to determine upon what types of soil and under what conditions they are succeeding and under what conditions they fail, that it may form the basis of researches to point out the way to make them successful under all conditions.

A corn and forage plant survey, to extend the boundary of successful farming still further westward, is an enterprise in which this State can well afford to engage.

Conserving Water Power.—These efforts should not be limited to agriculture. A series of investigations and experiments looking toward the conservation and utilization of the water supply of the State, for the purposes of both irrigation and power, is a duty which the College owes to the public. There are doubtless many localities in which sufficient power could in this way be developed to supply the needs of farm and village within the radius of twenty or more miles. In many other places hydraulic power could be developed sufficient to furnish light and power for from one to a dozen farms.

The loss to crops from improperly distributed rainfall in this

State is enormous. In many places water could be economically stored during the wet seasons, to be used for irrigation purposes when the rains fail. In other localities, the underground supply of water might be profitably utilized by a proper method of pumping.

The protection of life and property against floods is a matter of serious importance, and commends itself to our favorable consideration. Water purification and sewage disposal are as yet

unsolved problems for the greater portion of the State.

Tests should be carried on to determine the draft and efficiency of farm implements with the expectation of establishing standard designs for the different conditions of soil.

Kansas produces gas, oil and coal in large quantities. Much of this has been wasted in the past and is being wasted under present conditions. A series of tests conducted on a commercial scale will do much towards establishing standard methods for the preparation and use of these materials.

The gasoline engine will, for some time to come, be the principal prime mover for small units in this State. The cost of gasoline is constantly increasing. Under present conditions denatured alcohol can not be used economically. Investigations that will lead to methods of manufacture of denatured alcohol at a low price, and to methods of producing gas from Kansas coal successfully, will do much to extend the use of this type of engine and to cheapen the cost of power.

THE COUNTRY ROAD.

Of more importance than all of these is the country highway. We have, through long use, worn out the natural roads, and have not yet found a successful substitute. Through the recently created department of public highways of the College, however, it is expected that we shall be able to educate the people concerning the importance of this matter. Moreover, through this means the College is now pointing out the most satisfactory way of maintaining earth roads, imparting information in regard to the best systems of permanent culverts and bridges, and as rapidly as the people of a community will assume the cost, will supervise the construction of permanent roads.

At all times the people have been found ready to pay taxes for permanent public improvements, if they are confident that the money will be judiciously expended. It is through careful supervision by the experts of the College that the ordinary mistakes of the planning and construction of these highways and bridges will be avoided.

(To be continued.)

State Corn Show.

The State Corn Show, to be held at the Kansas State Agricultural College, Manhattan, during the Christmas holiday week, December 27 to January 1, under the auspices of the Kansas Corn Breeders' Association and the Extension Department of the Agricultural College, promises to be the largest corn show ever held in the State. Over \$800 is to be offered in prizes. Prof. A. M. Ten-Eyck, of the Agronomy Department of the Agricultural College, in looking over the premium list remarked that more money and larger premiums were offered at the State Show this year than are being offered in the Kansas Class at the Omaha National Corn Exposition. Every farmer in the State growing good corn should plan to attend the Corn Show and make an exhibit. An entrance fee of one dollar will be charged each exhibitor, but a yearly subscription to some farm paper will be given each exhibitor not winning other premiums. A list of the premiums and the rules governing the contest follow. All inquiries for information should be addressed to Prof. L. E. Call, secretary of the Kansas Corn Breeders' Association, Manhattan, Kan.

FARMERS' EXHIBIT.

	Class A.—10 Ears Yellow Dent Corn.		
P	remium.	Val	ue.
	1. Black Hawk corn-planter	\$42	00
	2. One hundred fifty pounds choice alfalfa seed	30	00
	3. Ten bushels Northern grown seed potatoes and \$10 cash	20	00
	4. Three bushels Reid Yellow Dent seed-corn and \$5 cash	14	00
	o. "Perfection" corn grader and one year's subscription to the		
	Topeka Daily Capital	10	00
	Class B 10 Ears White Dent Corn.		
	1. John Deere corn-planter	42	00
	2. One hundred fifty pounds choice alfalfa seed		00
	3. Ten bushels Early Ohio seed potatoes and \$10 cash	-	00
	4. Three bushels Boone County White seed-corn and \$5 cash		00
	D. "Perfection" corn grader and one year's subscription to the		
	Topeka Daily Capital	10	00
	Class C 10 Ears Corn, Other Than Yellow or White Dent.		
	1. Cash	15	00
	2. Cash		00
	3. Cash		00
	Class D.—10 Ears Western Kansas Corn.		
	(Grown in any county west of Jewell, Ellsworth, and Kingman.)		
			20
	1. Alfalfa shovel cultivator. 2. Ten bushels Reid Yellow Dent seed-corn. 3. Two bushels Rooms County White		00
	J. I WU DUSHELS DOONE COUNTY White sood-comp and one week's and	20	00
	SULDBOURD TO THE LODEKS HAMBER CAMPIAL	11	00
	1. I'V DUSHOIS DOUBE COUNTY WITH SAME CONN		00
	5. One year's subscription to the Topeka Daily Capital	5	00

Class E .- Acre Yield and Quality Contest.

(For the largest sworn yield per acre of air-dried corn, and	the	best	thirty-
ear sample grown on such acre.)			

ear sample grown on such acre.	
Premium.	Value.
1. One hundred pounds choice alfalfa seed	10 00
3. One year's subscription to the Topeka Daily Capital	5 00
A woonly subscription to some farm paper will be given to each ex-	

hibitor not winning other prizes in the farmers' exhibit.

BOYS' EXHIBIT.

Class A.—10 Ears, Any Variety of Corn Grown East of the West Line of Jewell, Ellsworth and Kingman Counties.

1. John Deere, Model B, disc harrow		\$32 50
2. Cash		25 00
3. Manson Campbell No. 2 corn grader and two bushels Bo	one	
County White seed-corn		18 00
4. Cash		12 00
5. Cash		10 00
6. Cash, \$5, and one bushel Boone County White seed-corn		8 00
7. Cash		5 00
8. Cash		4 00
9. Waterman Ideal fountain pen		4 00
10. One pair shoes		4 00

Eleventh to fifteenth premiums, one year's subscription to Wallaces' Farmer.

Sixteenth to twenty fifth premiums, one year's subscription to the Farmers' Mail and Breeze.

Class B.—10 Ears, Any Variety of Corn Grown West of the West Line of Jewell, Ellsworth and Kingman Counties.

1. Osborne disk harrow. 30 2. Cash. 25 3. Jensen corn grader and \$8 worth of seed-corn grown by the Ft. 18 Hays Branch Experiment Station. 12 4. Cash. 10 5. Cash. 10)()
3. Jensen corn grader and \$8 worth of seed-corn grown by the Ft. Hays Branch Experiment Station. 18 4. Cash. 12 5. Cash. 10	00
Hays Branch Experiment Station. 18 4. Cash. 12 5. Cash. 10	
4. Cash	00
5. Cash 10	00
a contract the Wt Hove Branch)()
6. Cash, \$5, and \$3 worth of seed-corn grown by the Ft. Hays Branch	20
Experiment Station	
7. Cash	
5. Uash	
9. One pair shoes	

10. Riding bridle..... Eleventh to fifteenth premiums, one year's subscription to Wallaces' Farmer.

Sixteenth to twenty-fifth premiums, one year's subscription to Campbell's Scientific Farmer.

RULES GOVERNING THE FARMERS' CONTEST.

1.—Corn may be exhibited free by all members of the Kansas Corn Breeders' Association. An exhibit fee of \$1 will be charged all others. This fee, however, may be used as an initiation fee to the Kansas Corn Breeders' Association.

2.—Contest is open to all farmers of Kansas. Only corn grown in Kan-

sas during the season of 1909 may compete for prizes. 3.—All samples of corn exhibited for prizes shall become the property of the Kansas Corn Breeders' Association.

4.—The corn must be delivered to the Kansas Corn Breeders' Association, Manhattan, Kan., care of Prof. L. E. Call, express or freight charges prepaid, by 2:00 o'clock p. m., December 28, 1909.

5.- Samples should be carefully marked with the name and address of grower, and the class in which corn is entitled to compete for premiums.

6.—All corn should be wrapped to prevent shelling, and should be tightly packed in a tight box for shipment.

7.—No corn shall be shown in more than one class.

8.—No exhibitor shall make more than one exhibit of one variety of corn

in a single class.

9.—Exhibitors are allowed to remove four kernels from one place near the center of each ear of corn for the purpose of studying the kernel before

exhibiting, but kernels must not be removed from other places over the ear. 10.—All entries to Class E., Acre Yield and Quality Contest, will be judged, grading 60 per cent upon yield and 40 per cent upon quality, as

shown by the thirty-ear exhibit.

11.—All prize corn, the property of the association, will be offered at public auction at 11:00 a.m. Friday, December the 31st. Samples purchased at this sale may be claimed immediately after the sale, by the purchaser.

12.-Ribbons awarded on any sample of corn shall become the property

of the exhibitor and not the property of the purchaser of the corn.

13.—Exhibitors and visitors may inspect the samples but shall not

handle the corn on exhibition which is entitled to prizes.

14.—Corn on exhibition will be carefully handled, but the association will not be responsible for damage or loss.

DONORS AND PRIZES.				
		Val	ue.	
1.	Arthur Capper, Topeka, Kan., cash	\$50	00	
2.	John Deere Plow Co., Kansas City, Mo., alfalfa shovel cultivator.	50		
3	D. M. Sechler Carriage Co., Moline, Ill., Black Hawk corn-planter.	42		
1	John Doore Play Co. Kangag City Mo. John Doore com planter.			
4.	John Deere Plow Co., Kansas City, Mo., John Deere corn-planter.	42		
0.	John Deere Plow Co., Kansas City, Mo., Model B. disc harrow.	32	90	
6.	J. G. Peppard Seed Merchant, Kansas City, Mo., 150 pounds			
	choice alfalfa seed	30	00	
7.	Mangeldorf Brothers, Atchison, Kan., 150 pounds choice alfalfa			
	seed	30	00	
8.	International Harvester Co., Topeka, Kan., Osborne disc harrow.	30	00	
9.	Capper Publishing Co., Topeka, Kan., five yearly subscriptions			
	to the Topeka Daily Capital	25	00	
10.	Capper Publishing Co., Topeka, Kan., twenty-five yearly subscrip-	20	00	
	tions to Farmers' Mail and Breeze	25	00	
11	Orange Indd Co. Chicago Ill twenty fire yearly subscriptions	20	00	
11.	Orange Judd Co., Chicago, Ill., twenty-five yearly subscriptions	00	00	
19	to Orange Judd Farmer	25	00	
14.	Kansas Farmer Co., Topeka, Kan., twenty-five yearly subscrip-			
	tions to Kansas Farmer	25	00	
13.	Breeders' Special Co., Kansas City, Mo., twenty-five yearly sub-			
	scriptions to Breeders' Special	25	00	
14.	Farmers' Review, Chicago, Ill., twenty-five yearly subscriptions			
	to Farmers' Review	25	00	
15.	Star Publishing Co., Wichita, Kan., twenty-five yearly subscrip-			
	tions to Farmers' Star	25	00	
16.	Geo. T. Fielding & Sons, Manhattan, Kan., 20 bushels seed-	20	00	
	potatoes	22	50	
17.	Ed. Flaherty, Seneca, Kan., 10 bushels Reid Yellow Dent seed	22	90	
	corn corn	90	00	
18	Poss Prothons Wishits Var 100 1	20	100	
10.	Ross Brothers, Wichita, Kan., 100 pounds choice alfalfa seed	20	00	
19.	H. W. Campbell, Lincoln, Neb., 20 yearly subscriptions to Camp-			
	OELL'S DETERMANCE RATINGS	20	00	
20.	The Brown County Seed House, S. G. Trent, Prop., Hiawatha,			
	Kan., 6 bushels seed-corn	18	00	
21.	Kan., 6 bushels seed-corn			
	21 duers	15	00	
22.	o. m. Oliman, Leavenworth, Nan., 5 bilshels seed-corn	15		
40.	Manson Campbell Co., Kansas City, Mo., No. 2 corn grader	12		
44.	First National Bank, Manhattan, Kan, cash	10		
25.	Union National Bank, Manhattan, Kan., cash	10		
	The state of the s	10	00	

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		Value.
96	The Deming Ranch, J. G. Haney, Mgr., Oswego, Kan., cash	10 00
27	Manhattan City and Interurban Railway Co., Manhattan, Kan.,	10 00
	cash	10 00
28.	Gillett Hotel, Manhattan, Kan., cash	10 00
29.	E. B. Purcell Trading Co., Manhattan, Kan., cash	10 00
30.	Jensen Manufacturing Co., Topeka, Kan., corn grader	10 00
31.	Capper Publishing Co., Topeka, Kan., ten yearly subscriptions to Missouri Valley Farmer	10 00
99	Wallaces' Farmer, Des Moines, Iowa, ten yearly subscriptions to	10 00
34.	Wallaces' Farmer.	10 00
33.	Ft. Havs Branch Experiment Station, Ft. Hays, Kan., seed-corn.	8 00
34.	J. M. McCray, Manhattan, Kan., two bushels seed-corn	6 00
35.	Manhattan Milling Co., Manhattan, Kan., one barrel of flour	5 75
36.	J. T. Martin, Hanover, Kan., cash	5 00
37.	J. E. Willis, Manhattan, Kan., cash	5 00 5 00
38.	Manhattan State Bank, Manhattan, Kan., cash	5 00
39.	E. L. Knostman Clothing Co., Manhattan, Kan., cash	5 00
40.	W. S. Elliott, Manhattan, Kan., cash	5 00
42	M. L. Hull & Son, Manhattan, Kan., cash	5 00
43.	The Smiths, Real Estate Brokers, Manhattan, Kan., cash	5 00
44.	Ramey Brothers, Manhattan, Kan	5 00
45.	Students' Coöperative Bookstore, Manhattan, Kan., Waterman's	- 00
10	Ideal fountain pen	5 00
46.	C. E. Hildreth, Altamont, Kan., 2 bushels Hildreth Yellow Dent	5 00
47	seed-corn	5 00
41.	Spot Cash Store, Manhattan, Kan., merchandise	5 00
49	W. A. Moore, Manhattan, Kan., cash	4 00
50.	E. L. Askren, Manhattan, Kan., cash	4 00
51.	J. Q. A. Shelden, Manhattan, Kan., merchandise	4 00
52.	Moore Bros. & Co., Manhattan, Kan., merchandise	4 00
53.	McCormick Brothers, Manhattan, Kan., cash	$\frac{3}{3} \frac{00}{00}$
54.	Hamilton Brothers, Manhattan, Kan., cash	3 00
50.	Geo. C. Allingham, Manhattan, Kan., merchandise	2 50
57	J. J. Paddock & Sons, Manhattan, Kan., cash	2 50
58.	J. J. Smith, Manhattan, Kan., merchandise	2 50
59.	Paine Furniture Co., Manhattan, Kan., cash	2 00
60.	Beatty & Penny, Manhattan, Kan., cash	2 00
61.	W. M. Allingham, Manhattan, Kan., cash	$\frac{2}{2} \frac{00}{00}$
62.	A. M. Blackman, Manhattan, Kan., cash	2 00
63.	Dugan & Shafer, Manhattan, Kan., cash	2 00
64.	H. H. Bates, Manhattan, Kan., cash	2 00
66	C. F. Engel, Manhattan, Kan., cash F. E. Wahl, Manhattan, Kan., cash	2 00
67	Porter, Yenawine & Moore, Manhattan, Kan., cash	2 00
68.	Frost Real Estate Co., Manhattan, Kan., cash	2 00
69.	Helder & Hostrup, Manhattan, Kan., cash	1 00
70.	Home Candy Co., Manhattan, Kan, cash	$\frac{1}{1} \frac{00}{00}$
71.	Mission Lunch Café Manhattan, Kan., cash	1 00
72.	Inskeen & Schaubel Manhattan, Kan., Cash	1 00
74	O. D. Shide, Manhattan, Kan., cash	1 00
75	Fleming Brothers, Manhattan, Kan., cash	1 00
10.	5. O. OII, Mainawan, Kan., Cash	858 95
	Total	000.20

The Kansas Academy of Science will hold its Forty-second Annual Meeting at Ottawa, December 28, 29, and 30. A preliminary program publishes the titles of twenty papers and addresses, and many others will be added before the sessions begin.

Poultry Institute and Show.

During the week following Christmas, from December 27 to January 1, the Poultry Department of the Kansas State Agricultural College will hold an annual institute and show in connection with the big State Farmers' Institute.

Last year the institute was well attended and proved quite a success, but this winter it is hoped that it be still better. Prof. H. C. Pierce, in charge of poultry at the Iowa State College, has consented to discuss the incubation question on December 31. Mr. R. C. Lawry, formerly an instructor in the Poultry Department at Cornell University and now manager of the Yesterlaid Egg Farms Company, of Pacific, Mo., will discuss the question, "Can a poultryman breed for fancy and utility at the same time," on December 30, and "Artificial brooding," on December 31.

Several practical poultry breeders from over the State will assist in the discussion of housing, on December 28; feeding, December 29; breeding, December 30; incubation and brooding, December 31; and diseases, January 1.

The discussions will all be informal, and a question box will be held each morning. Practical and fancy judging instruction will be given daily.

The poultry show will be held in the Armory, in connection with the institute. Birds will be on exhibition which can be used for judging, the quality of which will be first class. The premiums for this show are as large as any show in Kansas, with a possible exception of the State show, and the entry fees are much lower. No better place to advertise stock and also help towards improving the poultry industry will there be than at Manhattan, December 27 to January 1.

Preparing for Farmers' Week.

Following is a preliminary announcement of the State Farmers' Institute and the Agricultural College short courses to be held at the Kansas State Agricultural College this winter. An extensive program is in prospect, with practically every subject given sufficient time to attract students of every branch of farming. The meetings will be "a Great Gathering of the Craft."

The institute or farmers' week will begin December 27 and will end January 1, and every day of the entire week there will be something doing. Laboratory work will be shown each forenoon, with association and division meetings in the afternoons and general meetings each evening. There will be classes in corn judging, stock judging, cooking, sewing, dairy work, and poultry. There will be held the biggest corn show ever seen in the State. A complete program of the meetings will not be ready before the middle of December, but it will be full to the brim of good things for every one who lives on the farm. No fees of any kind will be charged.

During the week there will be held meetings of the Boys' Corn Growers Association, Girls' Home Economics Club, Kansas Corn Breeders' Association, County Institute Presidents' Conference, Kansas Dairy Farmers' Conference, State Draft Horse Breeders' Association, Kansas Sheep Breeders' Association, State Creamery Men's Conference, Kansas Swine Breeders' Conference, County Surveyors' and Engineers' Conference, Manhattan Poultry Association, and the Kansas Millers' Conference. Other meetings may be called to meet at the College that week. Definite dates for the several meetings will be announced later.

The annual winter short course at the College will begin at the close of the farmers' week meetings, and will continue for ten weeks. Instructions will be given in agriculture, including stock and grain judging, farm crops, stock feeding and breeding; dairying, including milk production and butter manufacturing; farm dairying and creamery operations.

The annual exhibit by the Manhattan Poultry Association will be held at Manhattan in connection with the State Institute at the Agricultural College December 27 to January 1. The prospects are that this event will be the largest in the history of the associa-The show will be held in the Armory building in Manhattan, and with a ten-minute street-car service will be in easy access The show will be judged by Judge Atherton, of to all visitors. Emporia, assisted by Judge Wm. Lamb and P. E. Crabtree. prizes are very liberal, being \$2, \$1 and 50 cents on singles and \$3, \$2 and \$1 on pens. The entry fees are 25 cents per birdpens free. A short course of instruction in poultry husbandry will be given at the College during the week, and this, in connection with the show, will make it a most instructive week to the poultry fraternity of the State. Requests for premium lists and entry blanks should be made to C. C. Smith, secretary, Manhat-The show will be held under the official wing of the State College Institute and Extension Department. Prof. G. C. Wheeler is president of the association.

Local Notes.

The fall term will close December 23.

The short courses for farmers and dairy men will begin Tuesday, January 4, 1910.

The State Farmers' Institute will begin Monday, December 27, and adjourn Saturday, January 1.

There will be an exhibit of the work completed by the students during the fall term, in the Domestic Art Department of the College, on December 21 and 22.

Pres. H. J. Waters and Profs. H. F. Roberts and A. M. TenEyck went to Omaha last Tuesday to attend the Missouri Valley Corn Exhibition. All three were on the program for addresses.

The annual reunion of the ex-students and alumni of Wabaunsee which had been advertised for November 30 was, on account of bad weather and impassable roads, postponed. The new date will be published later.

Foreman J. A. Mellotte, of the seed house of the Agronomy Department, left December 1 for Gooding, in southern Idaho, where he has taken up an irrigation claim. Mr. Mellotte has been with us since June, 1906. He is a trustworthy man, and we wish him success in his venture.

The Horticultural Department has made its customary exchange of fruit with other colleges for use in the pomology classes. Fruit from Massachusetts, Maryland, New York, Nebraska and Colorado furnishes opportunity to become familiar with the variation due to climate and local conditions.

The Choral Union meets for practice regularly Monday evening at 7:30 in the Auditorium on the oratorio "The Holy City," by Gaul. It is the intention to produce the oratorio sometime during the spring term. The music of the piece is powerful and the Choral Union will be in shape to make the most of it. The choruses will probably be sung by not less than a hundred voices.

The College herd has returned from the great International Stock Show at Chicago bedecked with blue ribbons. Professor Kinzer reports that our Angus herd got first and sixth prizes on two-year-olds, first and fifth prizes on yearlings, third on calves, and the grand first and fourth prizes on champion animals. On the shorthorn herd we got fifth prize on two-year-olds, fourth prize on yearlings, first on calves, and fourth on champion animals. On the Galloway herd we received first prize on yearlings. Several prizes were received on reserve animals and the first prize on champion beef herd. We also obtained of the prizes offered by the Clay & Robinson Commission Company, of Chicago, first prize on two-year-olds, first on yearlings, second on calves, first on herd of five steers, and first on champion animals. The cash prizes from this firm received by the College herd amounted to \$285, and the total of all the cash prizes received from all classes is \$1895.

The American Association for the Advancement of Science will hold its sixty-first meeting at Boston, December 27 to January 1. A preliminary program of sixteen pages, of the session, may be obtained by addressing the general secretary, Mr. Dayton C. Miller, Case School of Applied Science, Cleveland, Ohio, or the permanent secretary, L. O. Howard, Smithsonian Institute, Washington, D. C. Twenty-seven affiliated scientific societies will meet at Boston during the same week.

The United States Department of Agriculture issued during the past year 1200 different publications, averaging 35 pages each, making a total of over 17 million copies. The Secretary's report embraces 152 printed pages, and summarizes the year's operations in a great number and variety of labors that are under the control of the department. The appropriations for the Agricultural Department last year were over 16 million dollars. The officials and employes number 11,140, an increase of 720 during the year.

The roads, and especially the street crossings, in the north part of the city have been in bad condition during the past month—so bad, indeed, that many of them were positively impassable for man and beast. They have not been in worse shape since the first white man crossed the Blue river. The present city council and the city engineer have done heroic work during the summer in draining the swampy gumbo flat directly east of the campus, but the work has only been commenced, and it is to be hoped that some day, not too far off, it will be finished. The worst feature about the streets is the lack of decent street crossings. There ought to be a hundred good crossings built on Fremont, Laramie, Moro, Bluemont, Vattier and Kearney streets; that is, the streets that extend east from north Manhattan Avenue. The students feel that the city owes them that much.

The trend of education in America to-day is indicated in an interesting manner in a private letter recently received by Doctor Brink from his friend and classmate, Prof. Geo. M. Forbes, LL. D., who is at the head of the department of philosophy in the University of Rochester. In a passage of this letter Doctor Forbes says: The truth is that all our education must get away from the Renaissance, aristocratic ideal of abstract culture and discipline, and shape all its work for achievement. The end of all our education must be achievement with culture as incidental. next twenty years will see a tremendous transformation in our high school and college education in the direction of vocational de-Coming from a distinguished scholar who was formerly a professor of Greek, and who has now for several years been at the head of the department of philosophy in a high-class institution of the older eastern type, and whose whole educational career, both as student and teacher, has thus been under the shadow of ideals so widely separated from the practical as have his, these words seem especially significant of the growing recognition of the importance of the vocational in our educational aims.

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(Board of Instruction concluded on last page.)

THE INDUSTRIALIST

Vol. 36. Manhattan, Kan., December 18, 1909.

No. 10

The Duty of the Agricultural College.

(Inaugural Address of President Waters.)

(Concluded from preceding issue.)

PRODUCTION AND DISSEMINATION OF IMPROVED PLANTS AND ANIMALS.

The colleges of agriculture must lead in plant and animal improvement. A plan of improvement instituted by an individual is seldom carried beyond his lifetime. In a college, if well managed, a program of improvement may be carried forward without interruption for many generations, indeed indefinitely. It will be highly profitable for the state to encourage the more general use of better farm crops and live stock, by disseminating these improved strains, through the college. Already a large impress has been made upon the agriculture of Kansas, in both plants and animals, and experiments are now in progress which it is confidently expected will yield even more important economic results.

THE EXPERIMENT STATION.

The primary function of the experiment station is to extend the domain of human knowledge. It has been the chief factor in creating agricultural knowledge. It was the experiment station which won back to the college the confidence of the farmer, which confidence had been forfeited for lack of ability to lead him.

It is the experiment station which has supplied the teacher with accurate and well-organized knowledge to impart in the class room. It has been the experiment station which has provided the way for these institutions to become real leaders in the realm of agriculture and has exerted an influence upon agricultural practise that is epoch-making.

It is an admirable work to turn out young men trained for leadership on the farm and capable of going among farmers as teachers of correct systems of agriculture, or to lead young men who come to the college to a better knowledge of the subject; but, after all, the greatest work these colleges have to do is to equip men with the proper knowledge and the necessary inspiration to

advance the world's knowledge and to supply these thousands of teachers with something to teach.

It is, therefore, a fundamental mistake to assume that the duty of the experiment station is solely or even principally to benefit the farmer directly. A larger responsibility rests upon it—that of making an exact science of agriculture, so that it may be successfully taught in the colleges, the high school, the graded school, the farmers' institutes, and on demonstration farms.

The value of research is not limited to the industries. It is the very life of a teaching institution such as this. It gives point to the instruction. The teacher who is an investigator is a live teacher; no man can long keep alive as a teacher and not conduct researches.

RESEARCH TO ENCOURAGE MANUFACTURES.

But research in these institutions has been restricted to too narrow a field. Little attention has been given to problems other than production problems. The effort has all been in the direction of making two blades of grass grow where one grew before; or of increasing man's efficiency with this or that machine. The time has come when its influence should be materially extended. The wastes of a rural community are not all to be found in the processes incident to production. An equal waste occurs in the marketing and utilization of the materials produced.

The investigations should, therefore, include agricultural manufactures and the utilization of the wastes on the farm. Factories should be developed in the country, near the sources of production, for the preparation for final consumption of the materials grown on the farm. Such factories are necessary for the highest degree of economy in the production of food and to give the laboring man an opportunity to gain a livelihood outside of the congested city. Foodstuffs are already too high to stand the strain of the additional cost of transporting the raw materials long distances in order that they may be manufactured into edible form, then shipped back to the consumer in the very community in which they were grown, and where their manufacture might have been accomplished to better advantage.

In countries where the raw materials of our foodstuffs are chiefly grown, there they should be chiefly manufactured. Kansas wheat should be milled in Kansas. Just as the experiment station has made a profound impress upon the methods of farming, so may it improve the methods of manufacturing the products of the farm. The millers of the state need just such scientific assistance as the station can provide, all with a view not so much to

helping the miller directly as to improving the quantity and quality of the foodstuffs garnered from the Kansas wheat fields.

THE ECONOMICS OF MARKETING.

Such vital questions as how to dispose of the products that they may yield the largest returns, or how to spend the income so as to bring the best results in the highest sense, have been practically neglected.

To correct this one-sided development and meet this larger demand, the department of history of the college should be so strengthened and enlarged as to cover, both by instruction and by research, the industries of our country. The department of economics should be prepared to fully cover the range of transportation, manufactures, marketing, etc., as they relate to the farming and industrial classes. The department of sociology should deal with the life of the people in the open country and in the districts supported by the industries, and be able to suggest plans for their immediate and permanent improvement.

The department of architecture should make a large impress upon the homes and public buildings of the State, and upon the location and arrangement of the accessory buildings, that they may conserve the strength of the housewife, afford the sanitary conditions essential to health, and add to the comfort and pleasure of country life.

AMERICANS LIVE WASTEFULLY.

Americans, poor and rich, live wastefully. This can not continue. A new basis must be established which shall, while avoiding the extreme care and economy of continental Europe, which destroys initiative and kills pride, stop the major wastes in our system of living.

But of more importance than mere economy of living is the influence of the environment and method of living upon the race. Will out of it all in the long run come a strong and verile race of people—a race capable of meeting the complex problems of the future and advancing still further our civilization?

It is especially appropriate to emphasize this point in the institution which, among the land-grant colleges at least, has been a leader in this line, and which to-day boasts the largest and perhaps best equipped department of domestic science and art in America.

As much, however, as has been done in this direction here and elsewhere, and proud as we have a right to be of the record of this College in this direction, real work has been hardly begun and we scarcely realize what this great movement means and what will be

its future development. Certain are we, however, that it means something more than the mere teaching of young women how to sew and how to cook. It has involved in it the whole question of home building and the rearing of a strong and virile race of people. dream of the ancients, a strong mind in a sound body, is thus bebeginning to be realized. But we have only just come to take this view of the matter and have scarcely begun work on this broad Times are strangely out of joint when we justify the extensive scientific inquiries into the way to rear a strong and vigorous race of pigs or sheep or colts or cattle, and are content with the very meager knowledge which we possess of the nutrition of We have millions for research in the realm of domestic animals, and nothing for the application of science to the rearing of children. Exhaustive studies are made upon the life histories of animals of the lower orders, while vital facts in regard to the life history of our children remain a sealed book. We know how the amæbæ develop, but are content to remain in ignorance of what factors contribute to the development of a strong body and a sound mind in mankind. For centuries we have let the injunction "Know thyself" go unheeded, and have forgotten that "The greatest study of mankind is man."

For every dollar that goes into the fitting of a show herd of cattle or hogs or into experiments in feeding domestic animals, there should be a like sum available for fundamental research in feeding men for the greatest efficiency. The Kansas State Agricultural College ought to take advanced ground here, and build up the greatest institute of research in human nutrition in the world. The federal government should be interested and coöperate with the State and community in matters of this sort.

THE EXODUS FROM THE FARM.

It is common to lament the tendency of the best men and women to leave the farm and go to the city as a modern or present-day tendency, whereas it is as old as civilization itself.

"Plutarch in his 'Præcepta Politica' protested against the threatening invasion of large cities; Cicero thundered against the depopulation of the rural districts through similar attractions to those which draw young men and young women from the farm to-day. Even Justinian, the great law maker, was in favor of legislation designed to keep the people on the farm."

The great Roman Emperor Augustus before the Christian era saw that his empire was being undermined and the strength of his people sapped by the exodus from the country to the city, and called to him the poets of the nation and commanded them to sing of the beauties and profits of country life, in order to attract his people back to the land. This trend cityward has been to a great degree due to the half education which has prevailed in the rural districts and which has given the farm boy glimpses of the more attractive city life without teaching him at the same time how he may attain such a life at home.

For the first time in history this situation is sought to be met by making a profession of farming, so that it may be attractive to the intellectually strong, at the same time that the returns are large enough to command the reasonable comforts and luxuries of life. These countervailing influences, however, will be found to be inadequate unless they strike at the very root of the difficulty—the farm home, the country road, the rural school, and the country church.

VOCATIONAL SUBJECTS IN THE PUBLIC SCHOOLS.

This means that vocational subjects must be introduced into the courses of study in the grades and in the high schools, as well as in the colleges and in the universities. So rapidly and so fully has instruction in vocational branches been developed that the best and cheapest places to learn farming or stock raising or dairying is now not on the farm, but in a college. The horse doctor has been displaced by the college-trained veterinarian. place to learn to sew and to cook and to build and manage a home is not in the home, but in a college. The period of apprenticeship of the machinist has been supplanted by a course at college, and the employers of engineers no longer look elsewhere than to the colleges for this training. But gratifying as all this is to us, we must realize that at best the problem of bringing industrial education within the reach of the masses, and this is the great problem, is very far from being solved. In the nature of the case, but a small proportion of the people can attend college. It has already been pointed out that less than a dozen of every thousand pupils in the graded schools go to college. When we consider that these twelve are divided among the various courses offered by our colleges and universities, such as academic theology, law, medicine, teaching, journalism, agriculture, engineering, etc., we realize how small a proportion of the boys and girls of the country really come under the influence of this sort of instruction when it is confined to the college. To reach the masses with this work, it will be necessary to introduce it into the high schools and grades the country over. In the city schools, home economics and manual training, with agriculture optional, and in the country schools, home economics and agriculture, with manual training optional.

To the objection that these subjects, especially home economics and agriculture, of a character suited to the grades and high schools, are not yet teachable, I urge that they are far more teachable than were these same subjects of college grade twenty years ago, and that if we will apply ourselves to the problem of reducing them to pedagogical form with the same zeal and determination that characterized the efforts of the college teacher, equally satisfactory results will be forthcoming.

To the objection that the teachers are not prepared, I answer that the demand for teachers so prepared is all that is necessary to fully meet this difficulty.

INDUSTRIAL SUBJECTS IN HIGH SCHOOLS FIRST.

Success will come first in the high school, and next in the grades, for the same reason that it came first in the college. The high school to-day must be something more than a mere connecting link between the graded school and the college or university. It is more than the successor to the academy with the burden of support laid upon the public. It is in the strictest sense the people's college, and affords the highest education that the majority who go beyond the grades will ever get. It should do something more than merely fit for college the great masses who will never attend college; it should fit for the duties of life.

Already the city high schools have reached a fair degree of development in this direction, and the trend towards the industrial and vocational has been as rapid as could be expected or as is perhaps desirable. Their courses of study are already reasonably well adapted to the needs of the people who live in the city. It is a serious mistake, however, to pattern too closely after these city high schools in planning to meet the needs of those who live in the country. Careful consideration should be given to the pupil's environment and experience as well as to his probable future occupation.

AGRICULTURE IN THE RURAL SCHOOLS.

This is the next great educational problem. In fact, the rural school to-day, considered broadly, presents the most serious educational problem with which we have to deal. How to shape the instruction in this unorganized, isolated and poorly equipped school so that the pupils may not lose sight of the farm, its life, its problems, its beauties, and its profits, is the great question now before us. The hope of these schools and of our system of public education lies, not in the abandonment of these country schools, not in the attempt to substitute something else for them, but rather in making them serve their constituency in the best

way and contribute most to the development of the boy or girl who is fortunate enough to have been born in the country.

The problem does not consist in the long run wholly or even mainly in finding a suitable teacher, although this is perhaps for the moment the limiting factor in progress.

As Professor Bailey has well said: "If a room or a wing were added to every rural schoolhouse, to which children could take their collections and in which they could do work with their hands, it would start a revolution in the ideals of country school-teaching, even with our present school-teachers."

In short, our rural school system needs to be so revised that from the very outset the courses, to quote the words of a distinguished English educator, "shall be woven around knowledge of the common phenomena of the world. . . . For it should be the purpose of these elementary schools to assist boys and girls according to their different needs to fit themselves practically as well as intellectually to the work of life."

I do not wish to be understood, in quoting the foregoing approvingly, to advocate the making of the graded or high schools narrow or provincial. Nor would I permit these schools to become in any sense professional—except possibly the last two years of the course in a first-class high school. This might appropriately be made as severely professional as the funds for providing the additional teachers and equipment would permit.

INDUSTRIAL SUBJECTS WILL VITALIZE.

The benefits to accrue from the successful introduction of agriculture, home economics and manual training into the schools will not be confined to the direct influence which this instruction may have upon the industries involved, but this will be found to be the best way to vitalize elementary schools, and especially those in rural communities. Just as these useful subjects gave new life to our college courses, so will they be found capable of vitalizing the elementary courses.

TRAINING THE TEACHER.

As before intimated, the lack of suitably trained teachers for this work is temporarily the limiting factor in our progress. Where the teacher shall receive his training, and, of more fundamental importance, of what it shall consist, are questions not yet answered. Thus far no very satisfactory place for securing this training has been provided. A number of agricultural colleges of the country are offering courses in agriculture, etc., especially for teachers, and these in the main have been successful.

Congress recently recognized this lack in our educational sys-

tem, and provided, in the Nelson amendment to the Morrill Act, that a portion of the increased support thereby given the colleges of agriculture might be used for "providing courses for the special preparation of instructors for teaching the elements of agriculture and mechanic arts."

Whether experience will in the end show that the normal school, with agriculture, home economics and mechanic arts added, or the agricultural colleges, with sound courses in education added, will best meet this situation, or whether it may not indeed become expedient to employ both methods, I will not at this time hazard a guess. We are all, I take it, more interested in having this work done and done well, than in the question of where or by whom it shall be done. Certainly there are many people now teaching who desire to equip themselves to teach agriculture. These naturally would be best served by courses at the agricultural college.

EXPERIMENTS IN TEACHING INDUSTRIAL SUBJECTS.

To my mind, there can be no question as to the propriety and profitableness of establishing at the agricultural college, where agriculture, home economics and mechanic arts reach their highest development, and where there is the greatest interest and enthusiasm in these subjects, systematic investigation of the methods of teaching these subjects of a grade suitable to the requirements of high schools and rural schools. A sort of pedagogical experiment station for the systematic study of these and kindred problems is no less important than are agricultural experiment stations, to study questions relating to corn and wheat growing and the raising of livestock, and no less logical than engineering experiments to study questions in relation to bridges, highways, sanitation, etc.

KANSAS' OPPORTUNITY.

Much as we may deplore the lack of suitably prepared teachers to introduce these vocational subjects into the schools of the rural districts, and much as we may feel the lack of adequate knowledge and experience along this line, the really fundamental difficulty in the way of a satisfactory system of rural schools, primary and secondary, is the lack of sufficient funds. Wealth in rural communities is not sufficiently concentrated to afford the revenue necessary for this purpose. In many portions of the country the returns from the farm are so meager as to scarcely permit the schools to be maintained on their present low plane. The farmers of Kansas, however, are prosperous—perhaps more prosperous, on the average, than the farmers of any other section of the world. They

therefore owe it to themselves, to their less fortunate neighbors, and to their profession, to give of their means in sufficient amount to develop the most efficient system of rural education the world has known.

FARMER OR PEASANT.

It is not primarily a matter of increased financial return, but has involved in it the future welfare of America's agriculture. Further advancement must be based upon the increased intelligence of the man who is to till the soil, together with his better understanding of the fundamental laws of nature with which he has to deal.

If the American farmer is to prove an exception to the history of the world and remain the independent, thinking, reading, progressive individual that he has thus far been instead of becoming a peasant, as he has before in all history, it is necessary that he be given the broadest possible training, and be educated most thoroughly in the fundamental principles underlying his profession.

THE INDUSTRIAL AND THE CULTURAL MUST GO TOGETHER.

It is said that an ancient and honorable university once wrote over its portals: "No useful knowledge taught here." I would not go to the opposite extreme and write over the portals of even this institution—the child of a strictly utilitarian age—the legend: "No subject that is not useful taught here." I would make all the courses practical enough to fit men for efficient service in their several professions and pursuits of life, and at the same time liberal enough to prepare them for the highest service as citizens.

The best part of an educational institution is its spirit—is the point of view which it gives its students—the ideals which they carry away from its halls and through life, for of more worth than fine gold is a quickened conscience and a capacity to distinguish between what is right and what is wrong.

"A high ideal is the noblest gift man can bestow upon man. Feed a man, and he will hunger again; clothe him, and he will become naked. Give him a noble ideal and that ideal will abide with him through every waking hour, giving him a broader conception of his relation to his fellows. The ideal must be so far above us that it will keep us looking upward all our lives and so far in advance that we shall never overtake it."

Those whom we send out must make a large contribution to the welfare of the world.

GREAT TEACHERS MAKE A GREAT SCHOOL.

We point with a pardonable pride to our splendid group of buildings, the broad expanse of fertile soil which constitutes the College farm, the improved plants and animals, boasting of both a distinguished lineage and an honorable career, to the shops and equipment of laboratories and libraries, to the new athletic fields and gymnasium in immediate prospect, and to our other material possessions, and unconsciously make the sum of these, the college.

It is, however, the teacher who determines the worth of the school. We have no means of measuring the value of a great teacher. It was in the musty law office of John Wythe that Thomas Jefferson studied, as did also one of the greatest judges that ever sat upon the supreme bench, John Marshall, and also the greatest orator that ever electrified an audience in his period of the world's history, Patrick Henry. John Wythe was himself chancellor of Virginia, and a great man, but great chiefly for the men he made.

Given a good teacher, and locate him in a cellar, an attic or a barn, and the strong students of the institution will beat a path to his door. Given a weak teacher, and surround him with the finest array of equipment that money can buy, and permit the students to choose, as in the elective courses, and his class room will echo its own emptiness.

A poor teacher in a German university, where all subjects are elective, is a matter of comparative indifference, but in an institution such as ours, where the courses of study are fixed, to keep a poor teacher year after year and require hundreds of young men and women to waste their time in his classes, is little short of a crime.

Economy in teachers' salaries is false economy, and will quickly react upon the institution and upon the State. Low salaries mean cheap teachers and low-grade work. The twenty-five hundred or more students who come here annually to secure an education have a right to demand the best. To lose our best teachers the moment we have developed them to a high degree of efficiency, because we can not meet the salary paid in kindred institutions, is deplorable in the extreme. Or to secure good teachers and so load them with work that they can not render the most efficient service is an equally poor policy.

It should be the business of those entrusted with the administration of a college to secure the best men available, supply them with such facilities as will make them content, and then have the wisdom to let them alone.

WORLD LEADERSHIP REQUIRED.

Large and important as is the service this institution has rendered to the industries of the State, and great as are the problems of this sort for the future to solve, the service of greatest moment, the principal return which the Kansas State Agricultural College and similar institutions make for the large outlay of public funds—the real justification for their existence—is their capacity for developing in men and women the qualities of leadership. The public mind does not grasp and successfully grapple with great fundamental principles, but is apt to concentrate itself upon some detail—of one sort to-day, of another to-morrow. It is essential that we have leaders of public thought who see broadly and clearly, for, as Mirabeau says, "It is equally as important for those to be great thinkers who are to execute the laws as for those who made them." Homer realized the scarcity of such men, and, as given us by Pope, said:

Too few and wondrous few has Jove assigned A wise, extensive and all-consid'ring mind; They are guardians, these, the nations round confess, And town and countries think their safety blest.

Situated as we are, in the very center of the largest expanse of fertile land the world has, with a climate neither so warm as to weaken nor so cold as to dwarf, but the climate which has produced the most virile and progressive races of people—the races which have in all recent history dominated the world, no one can foretell what the future holds. Certain it is that here will be the greatest concentration of population and wealth. Here all things for which we are striving must reach their highest development. No longer will it be necessary for us to look to the east or to Europe for inspiration and guidance in education, in engineering, in agriculture, in how to live rationally. In very truth, the men of the East and of Europe will come here to learn. that the men of to-morrow, the young men who are now in school, must assume larger responsibilities than have devolved upon usthe responsibilities of world-leadership in the entire range of human affairs. It is imperative therefore that our systems of government, education, agriculture, manufactures, etc., shall be such as to withstand the severest test of science and human experience in order that they may furnish a rational example and guide for those less blest.

COLLEGES MAKE LEADERS.

In the absence of a great epoch or crisis in human affairs, such as the opening up of a new continent, the invasion of a country by a foreign foe, or an internal strife such as our recent civil war, the college and university must be depended upon to develop the world's leaders in all lines of activity. The state and nation, to

make certain that every youth with latent qualities of leadership may have within his reach, be he poor or rich, the uplifting and stimulating influence of the highest education the world affords, did establish and endow this and kindred institutions. It is upon this basis only that our civilization can be secure. No class of people, however large, cultured, or refined, is large enough, or intellectual enough, or refined enough, to supply all the leaders the state and nation require. It is only when all are drawn from all classes that we shall have enough, and be certain that we have the best. It is as Carlyle has said of the tragedy of ignorance:

"It is not because of his toils that I lament for the poor; we must all toil, or steal (howsoever we name our stealing), which is worse; no faithful workman finds his task a pastime. The poor is hungry and athirst; but for him also there is food and drink; he is heavy laden and weary; but for him also the heavens send sleep, and of the deepest; in his smoky cribs a clear dewy heaven of rest envelopes him, and fitful glitterings of cloud-skirted dreams. But what I do mourn over is that the lamp of his soul should go out; that no ray of heavenly, or even of earthly knowledge should visit him; but only in haggard darkness, like two spectres, fear and indignation bear him company. Alas, while the body stands so broad and brawny, must the soul lie blinded, dwarfed, stupefied, almost annihilated? Alas, was this, too, a breath of God, bestowed in heaven, but on earth never to be unfolded?—That there should one man die ignorant who had capacity for knowledge; this I call a tragedy were it to happen more than twenty times in the minute, as by some computations it does. The miserable fraction of science which our united mankind, in a wide universe of nescience, has acquired, why is not this, with all diligence, imparted to all?"

Mr. President: Assured as I am of the loyal support and cooperation of the Board of Regents, Faculty, students, alumni, and citizens of this great State of Kansas, at the same time realizing the full weight of its responsibilities, and conscious of my own limitations and weakness, and pleading for both charity and patience, I accept the high office of President of the Kansas State Agricultural College. May He who marks the sparrow's fall take us all into His keeping and guide our thoughts aright.

Del Valentine, owner of the Clay Center Times, and clerk of the Supreme Court of Kansas, has agreed to talk to the classes in printing at the College Tuesday, December 21. Ewing Herbert, of the Brown County World, another well-known Kansas newspaper man, has accepted an invitation to talk to the classes in printing.

Local Notes.

Pres. H. J. Waters and Prof. H. F. Roberts will address the Boys' Corn Contest Association of Shawnee county at Valencia, to-day (Saturday). President Waters will talk on the subject: "The Relation of the Experiment Station to the Farmer," and Professor Roberts will lecture on "Corn Breeding."

The basket-ball season opened Monday, December 13, with a game with Fort Riley, in the Y. M. C. A. gymnasium. Next term there will be about eight games at home and probably two trips away. Professor McCormick, the newly elected director of athletics, states that one trip will be into Nebraska and the other will be in Kansas. Coach Ahearn expects to have a good team in the field.

The Veterinary Department is building a hog-cholera serum plant on the old College farm back on the hill. A frame laboratory, a number of pens for hogs, a concrete water-tank and other improvements have been constructed, and it is expected that small quantities of serum can be furnished in January. The work is under the personal direction of Doctor Schoenleber, while Doctor Kubin has charge of the laboratory work.

Six hundred boys and girls are expected in Manhattan for the week beginning December 27 for the big State Farmers' Institute. Most of these boys and girls are to be sent here at the expense of local committees from the various counties of the State because of having won prizes for the best corn, or the best bread, in some local institute. The work is open, however, to any boy or girl, whether a prize winner at home or not. It will be a great event and certainly it will be a fine investment for any father to send his boys and girls of the right age to that meeting for a week of instruction and inspiration.—Daily Mercury.

Alumni and Former Students.

E. C. Butterfield, '98, and Mrs. Butterfield have come from Washington, D. C., for a visit of a few weeks with Mr. Butterfield's parents and his sister Margaret, secretary of the College.

L. G. Haynes, '09, who is located at Negrito Ranger Station, N. M., is now in the service of the United States Bureau of Forestry and is engaged in running a telephone line "through thirty miles of dense forest and over a very rugged and mountainous country." He is very much interested in his work, but owns up to periodic spells of homesickness for old K. S. A. C.

Col. J. G. Harbord, '86, of the United States Army and Assistant Chief of the Philippine Constabulary, was a much interested visitor of the College on the 14th of December. He found greater changes here than in any place with which he is acquainted. It is some fifteen years since he last visited us. During much of this time he has lived in the tropics, yet seems in excellent health.

Board of Instruction (concluded from second page).

INSTRUCTORS (Concluded).

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Farm Foreman

THE INDUSTRIALIST

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No. 11

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(D)	Instruction in Lings

(Board of Instruction concluded on last page.)

THE INDUSTRIALIST

Vol. 36. Manhattan, Kan., January 8, 1910.

No. 11

Regent W. A. Harris Dead.

Dr. J. D. Walters, Professor of Architecture and Drawing.

The Industrialist is pained to announce another death in the "College Family," the passing away, on December 20, 1909, of Regent William Alexander Harris, former United States Senator from Kansas, and probably the foremost authority on shorthorn cattle in America. Mr. Harris' death occurred at the home of his sister-in-law, Mrs. Lydia McCord Makey, in Chicago. Heart disease was the cause. His death came as the result of a brief illness following his activity in the promotion of the recent stock show.

Mr. Harris' home was in Lawrence, Kan., where his body was laid to rest last Friday. The funeral exercises were attended by a large number of representative men from all parts of the State and from other states. The honorary pallbearers were Governor Stubbs, J. D. Bowersock, W. T. Sinclair, Colonel Leonard and A. Munroe, of Lawrence; President H. J. Waters, of the Kansas State Agricultural College; Albin Saunders of the Breeders' Gazette and A. B. Leonard and B. O. Cowan, of Chicago.

Hon. William A. Harris was born in London county, Va., October 29, 1842. When he was 8 years of age his father, William A. Harris, was appointed minister to the Argentine Republic, and for four years he lived with his parents at Buenos Aires. Upon his return home he entered school for a careful and practical education, graduating from Columbian College, District of Columbia, in June, 1859. Immediately following his graduation he went to Central America and spent six months on the preliminary surveys for the interoceanic canal.

When he returned home he entered the Virginia Military Institute. He was in the graduating class of 1861, but the breaking out of the war stopped all study, and in April of that year he, with his classmates, entered the Confederate service. He served three years as assistant adjutant-general of Wilcox's brigade and as ordinance officer of D. H. Hill's and Rode's division of the army of Northern Virginia.

In 1865 he came to Kansas and entered the employ of the Union

Pacific railway as a civil engineer. That road was then completed from Kansas City to Lawrence, and the first work done by him was the building of the Leavenworth branch, of which work he had charge, completing it in 1866. Mr. Harris was resident engineer of the road until it was completed to Carson, in the fall of 1868, when he resigned to devote his attention to farming and stock breeding.

As a shorthorn breeder his fame soon extended beyond Kansas, and he is to-day better known in America and Europe as a successful breeder than almost any American. When he was nominated for congressman-at-large in 1892 he was in Scotland comparing notes with the most eminent breeders of Great Britain and planning benefits for his State and country.

Mr. Harris was elected to the Fifty-third congress. defeated for the Fifty-fourth congress by R. W. Blue, but in the fall of 1896 he was elected by a large majority to the State senate from the third district. The following January he was elected to the United States senate, succeeding Hon. W. A. Peffer, for a term of six years. Never before had Kansas, an agricultural State, sent a farmer to the United States senate. Two republicans-McKinley and Roosevelt-were in the White House while Harris, the ex-Confederate-Democrat, was in Washington. In influence with the President only one democrat, Cockrell, of Missouri, surpassed him. Harris had the confidence of Roosevelt as he had of McKinley, although they knew him to belong to the opposition party and to be unwavering. Outside of his election to the United States senate, Harris' chief claim to political fame in Kansas was his race for governor in 1906 against E. W. Hoch, who was then the republican nominee for the second term. within 2000 votes of being elected chief executive of Kansas, at a time when under ordinary conditions the republican party of the State could count on a majority of 75,000.

Senator Harris was appointed a Regent of the Kansas State Agricultural College by Governor Stubbs last spring, without his knowledge, and the appointment was received by all parties as a very wise one. At the time of his death he had been connected with the institution but a very short time, but had already proved himself to be a wise and far-seeing counsellor in every problem that came before the Board.

His death is a great loss to Kansas and to this College, and it will be a difficult matter for the Governor to find a man who will be so well qualified by temperament, education and varied life experience to fill the empty chair as was our deceased friend. To

the members of the Faculty his death comes as a personal loss. Many of the older instructors had known him for years when he was appointed and had met him not only as a statesman in Topeka or Washington, but as a successful farmer and as a model citizen down at his ideal country home, "Elmwood," near Lawrence.

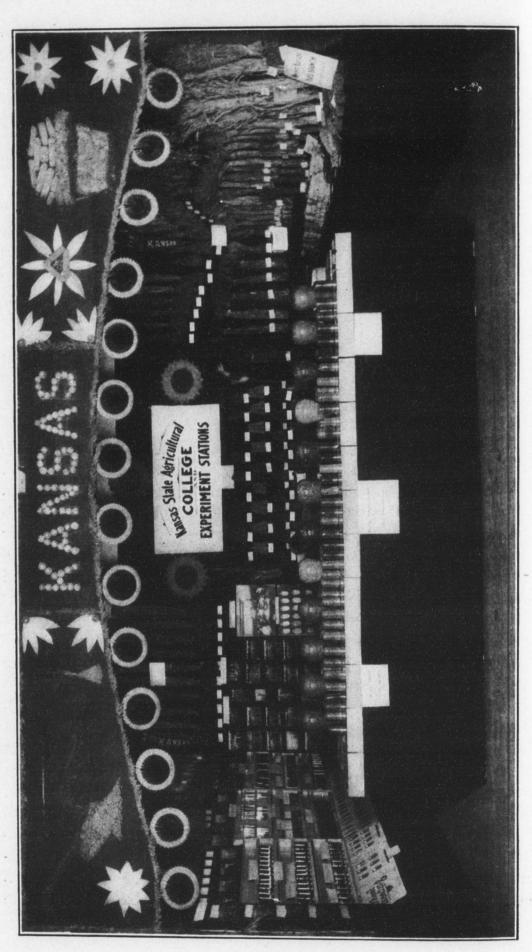
College Exhibit at National Corn Exposition.

The Third Annual National Corn Exposition just closed at Omaha, Neb., was the greatest and best exhibition of cereal grains, grasses and forage crops ever held. The plan and arrangement of the exhibits was much superior to that of last year. The number of samples in premium classes was somewhat less than the number a year ago, but the average quality of the samples was better than last year.

The National Corn Exposition is distinctly educational. One of the leading features was the exhibits by the agricultural colleges. Altogether twenty-three different state agricultural colleges were represented. The United States government also made a large exhibit along the line of agricultural education, particularly relating to the construction of good roads, prevention of hog-cholera, breeding of cereal grains, etc. The prevention of hog-cholera was the main feature of the exhibit by the Missouri Agricultural College, where this work has been carried on by Dr. J. W. Connaway in coöperation with the United States Department of Agriculture. The Nebraska Agricultural College and Experiment Station had a large and interesting exhibit.

The exhibit of the Kansas Agricultural College and Experiment Station was a credit to the State. One of the important features of our College exhibit was the demonstration of wheat breeding and results by the Botanical Department. The exhibition of samples of Western Kansas crops from the Ft. Hays Branch Experiment Station attracted much favorable notice. The crop improvement and seed distribution work of the Agronomy Department was well represented by many excellent samples of corn, Kafircorn, sorghum, and small grains, both in the head and thrashed. The whole exhibit was very neatly and artistically arranged, presenting each educational feature separately and in order. The exhibit was decorated with College colors and pennants, and particularly designated by a beautiful display of Kansas sunflowers so that passers-by could not fail to observe this exhibit from the Sunflower State.

Prof. A. M. Ten Eyck, vice-president of the National Corn Ex-



College Exhibit at the National Corn Exhibition.

position from Kansas, was in general charge of the Kansas exhibits, but several others have an important part in the preparation and arrangement of the Agricultural College exhibit. The exhibit of wheat breeding was largely prepared by Prof. H. F. Roberts. Mr. C. C. Cunningham, of the Ft. Hays Branch Station, gathered and prepared the excellent samples of Western Kansas crops. The excellent samples of grains, grasses, forage crops and well-bred seed-corn, etc., were largely prepared by Mr. H. J. Bower, Mr. Bruce Wilson and Mr. Floyd Howard, assistants in the Agronomy Department. The credit of putting up and arranging the exhibit is largely due to Mr. H. J. Bower and Mr. C. C. Cunningham, who were in charge of the exhibit during the first week of the exposition. Their places were taken by Assts. C. W. Nash, Bruce S. Wilson and Floyd Howard during the last week of the exposition.

Mr. J. M. Gilman, of Leavenworth, Kan., a noted corn grower and breeder and former president of the Kansas Corn Breeders' Association, was appointed judge of Kansas premium exhibits. He was assisted by Mr. Cunningham, acting in the place of the State vice-president.

The New Gymnasium.

Dr. J. D. Walters, Professor of Architecture and Drawing.

We are happy to announce that the drawings and specifications for the new Gymnasium of the College are completed and that State Architect C. H. Chandler has advertised for bids for its erection. The Regents will meet in January to award contract and the actual work on the building will commence as soon as the weather will permit. Next winter we will probably be able to see the structure finished and ready for use.

The building will cost \$100,000. It will be called the Nichols Gymnasium and Armory of the Kansas State Agricultural College, in honor of ex-President E. R. Nichols, under whose administration the legislative appropriation for its erection was obtained, and it will be located at the south end of the campus where it will close the large square formed by the Auditorium, the Domestic Science and Art Hall, and Fairchild Hall. In building material, style of stone-work, treatment of windows and doors, etc., it will resemble the other large buildings of the "city on the hill," but it will have a strong individuality of its own that will tell that it is something else than simply one more schoolhouse or one more laboratory. Following is a short description of the structure:

The general form of the ground plan is that of a large rectangle having sides of 218 feet 8 inches by 101 feet 8 inches and an extreme reach at the portals of 229 feet by 115 feet. The central part of the main floor is occupied by a large two-story gymnasium and drill hall, provided with a running track gallery. This hall measures 141 feet by 79 feet and is one of the very largest in the West. Its roof is mostly of glass and is supported by steel trusses. On this floor are also located two offices, a Faculty room, a society room, a fencing room, a game room, and two small trophy rooms—one for the young men and one for the young women.

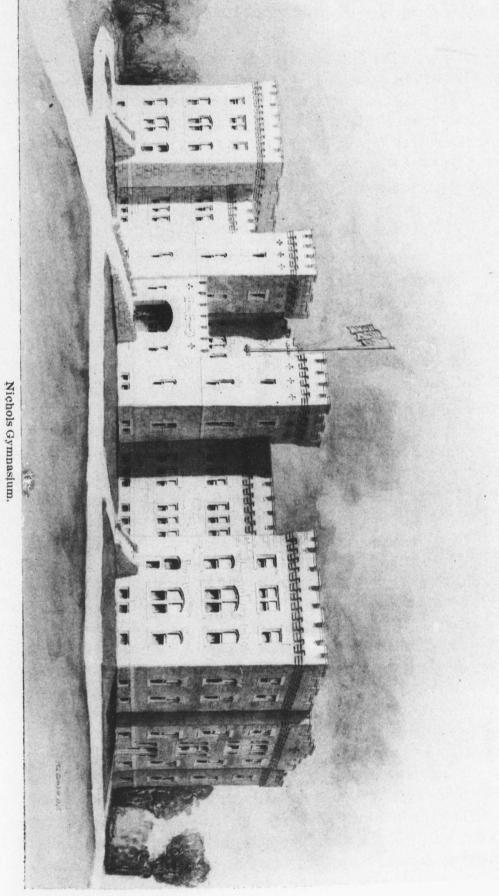
Several broad stairs lead to the basement floor, which on its south side will be entirely above ground. This floor is divided into two separate divisions—one for the young men and one for the young women. Each of these contains a large swimming pool lined with glazed tile, several bath-rooms, a 38 by 96 feet girls' gymnasium, two large locker-rooms, three toilet rooms, and several offices.

The second floor of the central part is occupied by the gallery and running track of the main gymnasium. There are also two offices, several closets, and four large and well-lighted society rooms. The latter will be equal to the best rooms in any of the College buildings. They will be easy of approach, well lighted and ventilated, and have a floor space of 38 feet 10 inches by 34 feet 8 inches.

The central part of the building will be three stories high, but the east and west wings will be one story higher. In these will be located four large and well-lighted class rooms or lecture rooms, having floors measuring 40 feet 6 inches by 35 feet.

The interior finish of all the rooms will be plain, but substantial, the plastering will have a water finish, the stairs will be of oak, and most of the ceilings will be of stenciled sheet steel. There will be plenty of electric light. The rooms will be heated by a combination of radiators and hot air. The heating, lighting and plumbing, however, will be contracted later, or will, in part at least, be done by the Engineering Department of the College.

The accompanying half-tone will give a good idea of the exterior of the building when finished. The architect has purposely omitted the usual decorative stonework of public buildings, such as columns, capitals, pilasters, porches, and cornices. The faces of the ranges are to be of Manhattan limestone from the College quarries and pitched so as to produce a rough exterior. Aside from the plain inscription over the large main entrance, there will be no stone carving of any kind. But the designer has indicated the



character of the "Hall," which is to be a home for the work in physical training, by the addition of four formidable square towers and by a heavy roof cresting of battlements. This will give it the appearance of a building that might crown a rocky hill in the valley of the Loire, the Rhine or the Thames. It hints at an age when the strong arm and the battle-ax ruled the world. Educational ideals have changed much since that time. The hero of today is not a giant killer; he is simply a farmer, a business man, or an engineer, but he still needs the healthy, well-developed body, the strong arm and the quick eye of the steel-clad knight of six hundred years ago.

Pure Insecticides and Fungicides.

At the last session of Congress a bill was introduced in both the Senate and House providing for the government control of the purity of insecticides and fungicides in much the same manner as the purity of foods and drugs is now controlled. This bill was introduced at the instance of the Association of Economic Entomologists. With the increased use of manufactured insecticides and fungicides it has become very necessary that their quality should be standardized so that definite recommendations for their use may be made with accuracy, and so that adulterated and inferior articles may not be imposed upon the farmer. In view of the fact that many states are enacting such legislation, the manufacturers are warmly in favor of a National law which will govern interstate traffic and which will tend to secure greater uniformity of state legislation. While the passage of such a national law would not prevent state legislation, it would in most cases make special legislation by the states unnecessary, and where states desired to legislate they would tend to pass laws similar to the National law. Several conferences of entomologists, agricultural chemists and manufacturers have been held, and practically all of the large manufacturers of insecticides and fungicides are heartily in favor of the measure which is drawn to protect the legitimate interests of both the consumer and the reputable manufacturer.

The measure has been again introduced at the present Congress in the House (H. R. 2218) by Hon. E. A. Hayes, of California, and has been referred to the committee on interstate commerce. The bill will also be introduced in the Senate, and an earnest effort will be made by the executive committee representing the entomologists, chemists and manufacturers to bring the measure to a vote before Congress. Practically all the leading horticultural and ag-

ricultural organizations of the country have endorsed the measure. It seems probable that the bill will be passed by Congress if the members of Congress become convinced that the people wish and need such legislation. At the last session of Congress the bill was favorably reported by the senate committee on agriculture, but this report was so late in the session that pressure of other business prevented vote at the short session. In their report this committee stated as follows:

"The bill was referred to the Secretary of Agriculture with the request for his views thereon, and the measure as amended is exactly in line with his recommendation. The legislation has the unanimous endorsement of practically all the organizations of practical growers in the country, as well as the National Grange, the National Apple Growers Congress, the American Association of Economic Entomologists, and in fact all the organizations representing the consumers. On the other hand, practically all of the leading manufacturers are heartily in favor of the measure. Your committee considers the legislation of vital interest to the fruit and truck growers of the country, and recommends its enactment in a law."

We hear very frequent complaint of impure or ineffective insecticides. In many cases these complaints are unwarranted, and lack of success is due to improper usage rather than poor quality, but there is no question that inferior goods are on the market as shown by the publication of analyses by some of the experiment stations. In the last Yearbook of the United States Department of Agriculture it is stated that the Bureau of Chemistry has analyzed samples of arsenate of lead which were practically nothing but white ar-This would of course be quite injurious to foliage. of such an article is not only unfair to the consumer but diminishes the use of properly made arsenate of lead, than which there is no better arsenical insecticide. If the fruit and truck growers and farmers of the country desire such legislation for the control of the purity of insecticides and fungicides they should let their congressmen hear from them in favor of the passage of this measure (H. R. 2218) at once and make their position clear as to the need of such a law.

If you are interested in this, write your Congressman at once, stating that the bill is before the committee on interstate commerce and you wish his influence towards a favorable report by the committee and prompt action by the House. Write at once, as the matter is being pushed for speedy consideration. If everyone interested will thus show his interest the law can probably be passed.

Local Notes.

The Students' Herald published a football issue Christmas week.

The basket-ball enthusiasts predict that the College will have a "whirlwind" team this winter.

The Mechanical Department is making a dough kneader for the Domestic Science Department.

Doctor Brink will serve as judge at the oratorical contest soon to be held at Ottawa University.

Mr. P. G. Howard, junior student in 1878, writes to Professor Walters, from Denver, Colo., that he will send his son to College this term.

The Students' Herald carries about as much advertising as the average county paper. A recent issue—not a special issue at that—contained sixty paying advertisements and not a single one of these was of the patent sheet variety. They were all good meat.

The Veterinary Department has lately examined several dogs that were supposed to have been mad. One was sent here from Geary county, one from Brown county, and a number from Chase county. All of them were found to be infested with the dreaded disease.

In a practice game last Monday night the College basket-ball team defeated the Seventh Cavalry team from Fort Riley, by a score of 60 to 6. Captain James, of the Army team, collapsed on the floor of the hall during the game, and it took considerable work to revive him.

The State Horticultural Society held its annual meeting in the Supreme Court room of the State Capitol, Topeka, Tuesday, Wednesday, and Thursday, December 28, 29 and 30, 1909. The College was represented on the program by Professors Albert Dickens and T. J. Headlee and Assistant C. V. Holsinger.

Doctor Walters went to Stillwater, Okla., during the holidays, in response to a request of the Oklahoma State Board of Agriculture, to consult with them about the improvement of the campus of the Agricultural College, the location of new buildings, and a heating plant. He reports the sister institution as highly prosperous.

Prof. C. C. Georgeson, special agent in charge of the Alaska Agricultural Experiment Stations, formerly professor of agriculture of this College, sends us a copy of his report for 1908. The document, a neat pamphlet of 80 pages, is brimful of interesting results, statistics and illustrations telling of the efforts made up north to raise cereals, grasses, vegetables, and farm animals, and it looks as if the country around Sitka might some day produce much of the food and feed needed in that region. The professor is a born Norseman himself, and there is no man in America better fitted by birth, education and experience to make a success of the experimental work in Alaska.

A letter from Wakarusa, Kan., informs us that Wayne Nelson, a second-year student, was instantly killed by a stray bullet, while out hunting Thursday, December 30. Mr. Nelson intended to return to College in January, together with his older brother, Rowland Nelson. Wayne was a bright and hard-working young man who had a promising life before him. He was well liked by his associates and teachers at this College.

Prof. A. M. TenEyck, of the Department of Agronomy, was elected president of the American Association of Agronomists at the recent Omaha meeting. This association is composed of widely known scientists of America engaged in plant breeding and farm crop experiments, including the experts of the United States Department of Agriculture and the agronomists of all the experiment stations of the United States and Canada.

The basket-ball team opened its season last Thursday evening at the Y. M. C. A. Gymnasium with a game with Nebraska University. The result was 27 to 16 in favor of K. S. A. C. The manager offers season tickets for \$1.50, and eight games are assured. Those already engaged in addition to Nebraska are: Baker, January 11; Kansas City Athletic Club, January 18; Bethany, January 24; Washburn, February 19. Negotiations are now on with several others, including K. U.

The newspaper men of Manhattan have done considerable bartering during the holidays. The daily *Mercury* and the semiweekly *Republic* have consolidated and have bought out the weekly *Democrat*. It is the intention of the new firm, Kimble and Vernon, to publish a first-class daily and weekly paper, a periodical that will be a credit to an energetic and prosperous city like Manhattan. The editors are vigorous young men and interesting writers, and we have no doubt that they will make their venture a success.

The State Farmers' Institute, Poultry Exhibition and Corn Show, and the annual meetings of the Kansas Corn Breeders, Dairymen, Sheep Breeders, Stock Breeders, etc., which were held at the College during the last week of December, were well attended. There must have been a thousand persons on the campus, exclusive of our students, and there was much enthusiasm in evidence. Supt. J. H. Miller, of the College Extension Department, will publish a full report of the meetings in the next number of the Industrialist.

The Agronomy Department of the College purchased 30 or 40 bushels of choice show corn at the National Corn Exposition at Omaha, which will be used for judging samples in the regular cornjudging work. The College students will have the advantage of working with the "best corn in the world," since this corn is far superior to the ordinary samples of corn which it is possible to secure from other sources. The plan is to use the corn for judging during the winter, and next spring it will be distributed among the farmers of Kansas for planting.

Attention is called to the public sale of registered shorthorn cattle to be held at the College barn, Tuesday, January 11. The cattle of this sale are consigned by H. F. Brown, of Minneapolis, the Ex-President of the American Breeders Association, and E. D. Seamens, of Salem, Iowa. There will be some elegant bred Scotch cattle in this sale, including five or six young Scotch bulls of the choicest breeding, cows with calf at foot, cows safe in calf, and a few good yearling and two-year-old heifers. These breeders are sending these cattle to the sale on account of having a surplus of cattle on hand and with a desire to get acquainted with the farmers of Kansas. Send to the auctioneer, Mr. R. W. Barclay, Mason City, Iowa, for a catalogue of this sale.

The Clay Center Times speaks of the great technical school of Kansas in the following complimentary manner: "The Agricultural College at Manhattan is a wonder. The people who live within fifty miles of the College and who should know something, really cannot keep track of its accomplishments. Bird's-eve views of the grounds give fair ideas of the buildings, their size, location and all that, but the spirit which prevails on that hill is beyond all understanding. The College spirit is lost to sight, but is mighty, healthy, and enthusiastic. A representative of this paper drifted over the campus for several hours one day last week inspecting the prize cattle, hogs, sheep, chickens, and Dairy Department, also the Printing Department and the girls' domestic science building. Few heads are sprinkled with gray down there; it is all youth and steam and high pressure and college spirit."

The total number of students enrolled in all courses and classes last fall term was 1794. Of these 107 were young women attending the domestic science short course, about 60 were specials, and 840 were in classes leading up to the thirteen regular four-year courses, but below the sophomore year. The attendance of the advanced students in the four-year courses was as follows:

SOPHOMORES.

All Agricultural Students	Civil Engineering 23 Architecture 12 Printing 7
Mechanical Engineering 26	Total
Electrical Engineering. 54	SENIORS.
Civil Engineering 24	SENIORS.
Architecture 12	Agronomy 8
Total364	Horticulture
20001 304	Animal Husbandry 15
JUNIORS.	Dairy
	Veterinary
Agronomy	Domestic Science (women) 45
Horticulture 5	General Science
Animal Husbandry 24	Mechanical Engineering. 9
Dairy 9	Electrical Engineering 18
Veterinary 14	Civil Engineering 6
Domestic Science (women) 83	
General Science 28	Architecture4
Mechanical Engineering. 23	Printing 1
Electrical Engineering 28	Total 147
20	Total

Alumni and Former Students.

J. H. Criswell, '89, is now instructor in agriculture in a school at Winona Lake, Ind.

Robt. E. Williams, '07, has located at Nebraska City, Neb., for the practice of his profession, veterinary medicine.

Adriano Alcazar, '09, is employed in the Bureau of Public Works in the Island of Panay. His work mostly consists of road construction.—Students' Herald.

Geo. L. Christy, '09, and Miss Lilly May Sherman, both of Howard, Kan., were married December 26, at Howard. They will be at home after January 15, at Mancos, Colo.

W. S. Wright, '06, reports the arrival of Earnest Raymond Wright, October 30, 1909. Mr. and Mrs. Wright are now employed at the Celville Indian Reservation, Daisy, Wash.

Old friends will sympathize deeply with C. H. Thompson, '93, in the loss of his wife, whose death occurred Monday, January 3, 1910, after an illness of ten days with pneumonia.

E. S. Taft, '08, is secretary of the Young Men's Christian Association of the University of South Dakota at Vermilion, and in addition to that work is taking a medical course in the university.

G. H. Failyer, '77, for many years professor of chemistry here and now one of the chemists of the Bureau of Soils, has been elected president of the Washington (D. C.) section of the American Chemical Society.

E. O. Sisson, '86, professor of education in the University of Washington, Seattle, Wash., is president of the Educational Council of the Washington Educational Association, which holds its annual meeting, December 28 to 30, at Tacoma, Wash.

Word has been received from the Philippines that Vincent Manalo, a graduate mechanical engineer, '08, will be married this month. Mr. Manalo is employed in the coast guard service, being chief engineer of eight coast guard boats.—Students' Herald.

Dr. A. T. Kinsley, '99, was chosen president of the Missouri Valley Veterinary Association at the annual meeting held in Omaha last June. He was also elected a vice-president of the American Veterinary Medical Association at the annual meeting held in Chicago, September 7 to 10.—Alumnus.

O. B. Whipple, '04, who has been in charge of the Colorado Experiment Station at Grand Junction, has recently been elected professor of horticulture and experiment station horticulturist at the State College of Montana, at Bozeman. Mr. Whipple and Prof. W. Paddock, recently of the Colorado Agricultural College, are the authors of a new book dealing with the subject of fruit growing in the intermountain states. The book will be published by the Macmillan Company, and will appear within a few months.

—Alumnus.

Board of Instruction (concluded from second page).

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Earle B. Milliard	Machine Shops
J. T. Parker	nt in Woodwork
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Floyd HowardSuperintendent of	Farm Foreman

INDUSTRIALIST Vol. 36 Set

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THE INDUSTRIALIST

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No. 12

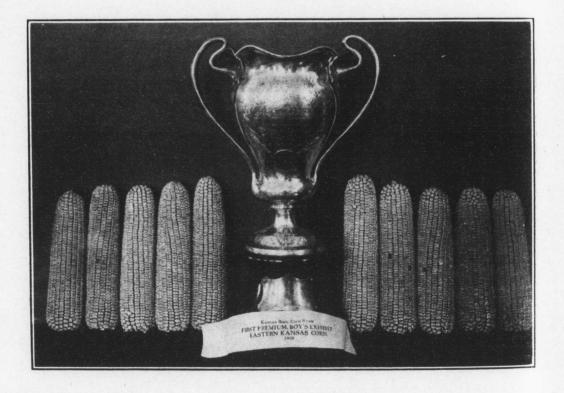
State Farmers' Institute.

During the past year a large corps of Farmers' Institute workers and instructors from the Kansas State Agricultural College have been busy in the county and local institutes of the State. They have lectured upon and demonstrated scientific agricultural investigations and better methods of farming. The mails have carried large amounts of bulletins and other literature relating to agriculture, and special trains have made tours of the State in the interest of better farming. This is taking the College to the people. From December 27 to January 1 the people came to the College, when it opened its doors to the State Farmers' Institute. Almost 700 persons, most of them boys and girls, sent by the local institute of their respective neighborhoods, were enrolled in the Besides these there were a large number who came to the conferences of the various organizations of agricultural interests that met at the College during the week. The dairymen and creamerymen of Kansas effected organizations; and the horse, the sheep and the swine breeders' associations convened. Conferences of millers and wheat growers and of county highway officers were held, and the corn show and the peultry show brought a large number interested in these lines. In short, almost every phase of agricultural interest was represented.

The State Farmers' Institute this year has been the most successful ever held. Not only is this true in point of attendance, but in the live interest displayed. There was no evidence that anyone came through idle curiosity; everyone evinced a purpose to observe, study, and learn, and the opportunity was unequaled. On the College grounds were to be seen some of the champion show stock of the world, the prize-winning corn exhibits of many shows, and the well-equipped laboratories were open to the use of the students. Classes were offered the men and boys in corn judging, stock judging, dairying, and poultry management. Women and girls were given work in domestic science and art. The actual laboratory and practice work was supplemented by lectures and demonstrations. These were given by the very best

of authorities on the various subjects—speakers from various state universities, the Department of Agriculture at Washington, members of the Kansas Experiment Station staff, and College instructors.

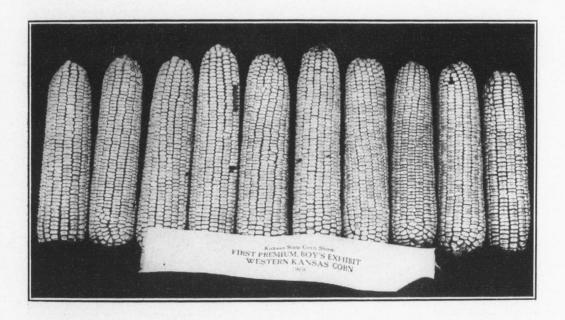
Each member of the institute had opportunity to attend several busy sessions each day. The mornings and afternoons were largely taken up by instructional work and discussions relating to the line of work in which the students were specially interested.



The evening meetings, however, were of more general interest and drew a large attendance. All members of the institute were gathered together into one body here, and it was found necessary to hold the sessions in the large Auditorium. Realizing that the audience was composed each night of people representing almost every phase of agriculture and engaging in widely diversified farming operations, the programs were so arranged that they held the general interest at all times and at the same time gave almost every feature of agricultural activity an inning at some time during the week. Such subjects as Agricultural Education, the Cost of Producing Farm Crops, Preservation of Soil Fertility, Our Future Food Supply, and Good Roads are of course important ones for any Kansan to study; and the subjects were made doubly instructive when presented by such men as Prof. Thos. Cooper of Minnesota, Dr. J. H. Pettitt of Illinois, Prof. F. W. Howe of Washington, D. C., President Waters, and other speakers. of large caliber.

Many of the lectures and addresses were illustrated and the facts presented in an especially pleasing and instructive way by the use of stereopticon slides. No opportunity was lost for presenting the work in such a way that the largest possible practicable use might be made of it by students. The whole spirit of the institute was to give each one in attendance training that could be put into actual use on the farm and in the home.

Another valued speaker before the evening gatherings was Prof. C. P. Hartley, of the U. S. Department of Agriculture. His



talks related to corn, corn breeding, selection, and variations and the utilization of them. These topics were listened to with special atter the one hundred fifty boy corn breeders who were competing for prizes for the best samples of corn over at the corn show. Professor Hartley was giving the results of his own observations—facts he had learned from investigations and experiments in corn growing carried on through many years and widely varying conditions. They possessed utility value. The practical nature of his work was set forth when he said: "It is not always the nicest looking ear of corn that is the best for seed; hence the necessity of making 'ear to row' tests to determine which ears of the selected lot are really the highest yielders. My idea of a score-card for corn is: 'Yield of good corn per acre, 100 points.' Only after this consideration let the detailed study of each ear be made and a certain number of points be given each characteristic.''

The discussion of the problem of good roads drew a large audience of eager listeners. On Friday evening Mr. Curtis Hill, state highway engineer of Missouri, discussed the influence of road im-

provement. He believes that Kansas should have better roads, and that they should be built from her own materials. "Improved roads," said Mr. Hill, "will greatly promote the growth and prosperity of a community, county, or state. Good roads will upbuild and improve the community because they facilitate transportation and reduce its cost, enhance the valuation of property, and are beneficial to the social and educational conditions. The most practical feature of road building is the proper use of the road materials in our own vicinity. Almost every county of our



In the Cooking Laboratory.

Missouri valley states contains some kind of material which could be used for the purpose of road improvement, if we could but find the proper way in which to utilize that material." Discussing further the special features of county road and bridge construction the speaker said: "In any case it is necessary that we have a local or county official with competent experience and judgment to study the local conditions and to adopt those plans and methods suited to his country. If we could arrive at this basis, together with the other principles; that above all, cash taxes, state aid and competent supervision is necessary to make roads, it would not be long before any state which would adopt and carry out these principles would have an increased mileage of good roads."

In the Domestic Science and Art Hall over seventy-five women and girls were taking lessons in home economics. Besides the practice work in the sewing and cooking laboratories, demonstrations and lectures were given by instructors on various lines of domestic economy. Cooking, table setting, serving, mending, drafting and dressmaking were some of the subjects that were studied and practiced. Other highly interesting and instructive topics that were handled by various speakers during the week were the relation of food to disease, home decoration and furnishing, and efficiency of woman in the home. Every woman and girl



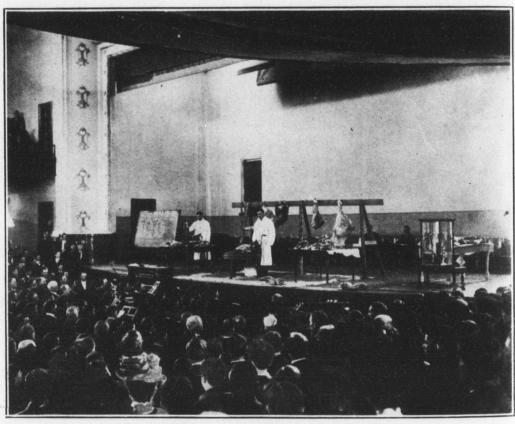
Domestic Science Students at the Institute.

performed the work in bread making from the making of the yeast to the finished loaf. All those under twenty-one years of age entered these loaves in the bread-baking contest. The first prize in this contest was won by Miss Laura Richards, of Lyndon.

However, the work was not all confined to the problems of the house. Professor Kendall followed up a lecture on "Butter Making on the Farm" by taking the classes on an inspection tour of the dairy and the dairy barns. The machines and equipment of the dairy were examined and studied, but the chief interest centered upon the milking machines at the barn, which were found in operation and which excited much comment. Every one was much impressed with the perfect cleanliness of the animals and their hygienic quarters. Another subject of interest was "Poul-

try Management on the Farm" and a discussion of the value of eggs in cookery, which was given by Mr. A. G. Philips.

But perhaps the most interesting digression from the routine work of the classes was a meat-cutting demonstration given by Mr. T. G. Patterson, of the Animal Husbandry Department of the College, who, beside being a stock man, is an expert butcher. He made cuts from and drew comparisons between the carcasses of a canner cow and that of a prime beef steer, explaining the dif-



Meat-Cutting Demonstration in the Auditorium.

ferences in value between the two, and also the comparative value of cuts taken from different parts of the prime beef, and passed these out for inspection by the students.

As a whole, the week was of great value to those in attendance, and the department was greatly pleased by the large enrolment and the keen interest taken. One of those in charge of the work said: "We do not feel that the work as it was conducted was satisfactory in every respect, and already plans have been laid for the improvement of next year's institute, in management of both class work and lecture work. Of course, this work cannot be like the regular College instruction, but the visiting women expressed themselves as well pleased with the taste of student life."

Perhaps the Gymnasium received more visitors than any other

place on the campus. In it the corn show was held—over two hundred fifty samples of Kansas-grown corn entered in the various contests, beside other exhibits that were displayed. This show is managed by the Kansas Corn Breeders' Association, which offers premiums for the best ten ears of corn in both men's and boys' classes, divided between the eastern and western sections of the State. The boys' contest was of especial interest. The very best of corn was entered in this class—only those samples that



The Corn-Judging Room.

had taken premiums at a county contest earlier in the season, and had perhaps won for the exhibitor a trip to the State Institute. The samples submitted were better than at any previous show, showing a greater knowledge of growing and selecting, and were a tribute to the efficacy of the training received by the boys in the corn-judging classes of previous years. It is worthy of note that the three highest premiums were taken by boys who had procured pure-bred seed from the College. Altogether, twenty-five boys carried away prizes of from \$2 to \$32. Earl Willis, beside taking firsts on both his ten-ear and single-ear exhibit, was awarded a handsome silver loving cup, as sweepstakes premium.

An instructive exhibit was arranged by Mr. P. E. Crabtree, of the Institute Department. In it were samples of corn from variety tests made on the demonstration farms of different sections of the State, and which were of value in showing which varieties were best suited to these regions. No less instructive was the study of the world's championship bushel of corn shown by Mr. Arthur Capper.

Thursday was the day of the conference of the millers and wheat growers of the State. Ways of caring for wheat from the time it is harvested until it reaches the mill were discussed. Stacking, threshing, storing and transporting were some of the topics, and Professor Roberts presented some facts regarding wheat breeding. Mr. L. A. Fitz, of the United States Department of Agriculture, explained apparatus used in North Dakota in testing of flour for milling and baking, and laid stress upon the desirability of such a plant, planned on a larger scale, at the Kansas Agricultural College. On Thursday evening the millers met at the Commercial Club rooms of Manhattan. They heartily endorsed the steps the College is taking in preparing to make milling and baking tests. A movement was also inaugurated whereby the millers are to provide \$5000 for coöperation with the College in the interest of better handling of wheat, and in the eradication of insect pests.

The creamery operators and the dairy farmers each held twoday conferences. Beside Kansas dairymen of note, Professor Haecker, of the University of Nebraska, and Mr. A. J. Glover, associate editor of Hoard's Dairyman, addressed the conference. These speakers believe that the dairy cow requires shelter in Kansas as well as in any other dairy section; also, that the silo is a most profitable investment and a factor which will vastly increase the possibilities of dairying in Kansas. Mr. Hinman, of the Extension Department of the College, discussed silo con-He promises to lend assistance to any Kansas dairyman who may request it, by superintending the building of silos. The dairymen and creamerymen have each perfected strong organizations that will do much to increase the dairy activities of Measures have already been adopted for protection against the oleomargarine interests.

In an address before one of the evening conventions, President Waters set forth the position of the College in its relation to practical farming in the following words: "Education is now something adapted to and intended for the uses of the masses of the people instead of for the classes as in former times. President Schurman, of Cornell University, characterized the founding of the agricultural colleges of this country as one of the epochs of

the educational history of the world. These colleges are exerting an inestimable influence upon the industrial pursuits of mankind. The farmer now looks to the Agricultural College for advice and assistance in all his operations. The College produces seed for him to sow which will give yield and quality of crop; suggests methods of handling his soil to increase its fertility; supplies him with serum to protect his hogs against cholera, and vaccine to prevent his calves dying of blackleg; warns him of threatened invasion of insect pests and instructs him of the means to prevent it. In short, there is scarcely an important operation on his farm in which he does not rely upon the College for assistance. And the College is rendering this assistance by instructing the army of students who each year enter its walls, by the institute workers who are at work abroad over the State, and by the bulletins and other literature which is sent out."

A New Text-Book on Soils.

The Macmillan Company has recently published a text-book on "The Principles of Soil Management," written by Dr. T. Lyttleton Lyon and Prof. Elmer O. Fippin, of Cornell University. Doctor Lyon was formerly professor of agronomy at the University of Nebraska, but now has charge of graduate work in experimental agronomy at Cornell University. Professor Fippin is a graduate of Ohio State University, was with the Bureau of Soils, United States Department of Agriculture, for several years, and for the past four years has had charge of the undergraduate work in soils at Cornell University. The book is written to be used as a text in college work and treats the subject of soils from a geological, physical, chemical and bacteriological standpoint. The text, while of a general nature, is explicit and clear, and will undoubtedly prove a valuable reference book for all students of soils.—L. E. CALL.

Mr. Blackburn makes it a point to get to the College as many days in advance of Board meetings as possible that he may absorb some of the K. S. A. C. spirit, to become better acquainted with the Faculty and students, and to adjust himself to local ideas and conditions. The work of the Board is chiefly financial, but he realizes that much advantage is to be gained by keeping in touch with the various enterprises carried on by the students.—Students' Herald.

Local Notes.

The Board of Regents held their regular winter meeting this week.

The total number of students who paid their fee for the fall term is 1794.

To-day (Saturday) is "Oats" day in every farmers' institute meeting in Kansas.

Professor Kendall, of the Dairy Department, went to New York last week to investigate dairy conditions in that state.

The Riley County Educational Association will meet on Lincoln's birthday, February 12, at Riley. Pres. H. J. Waters will give an address.

A recent number of the *Kansas Farmer* contains several well-drawn illustrations of Doctor Schoenleber's methods of immunizing hogs against the hog-cholera.

The seniors have elected the following officers for the winter and spring terms: President, R. E. Talley; vice-president, Christine Heim; secretary, Mae MacLeod.

Mrs. Van Zile attended the Household Economics Convention at Boston during the holidays and read a paper in one of the sessions. On her way home she visited several schools of domestic science.

The Domestic Science Department has recently added two instructors to its teaching force: Miss Miles, of Guelph Agricultural College of Canada, and Miss Smith, of Ohio State University.

Regent Blackburn and President Waters started on a round trip to Nebraska and Minnesota to inspect the organization of the secondary work in agriculture at the schools of agriculture of those states.

Gov. W. R. Stubbs has appointed Hon. Tom Blodgett, of Wichita, to fill the vacancy caused by the death of Hon. W. A. Harris. Mr. Blodgett has accepted the position but has not been able to attend the January meeting, just closed.

Asst. Thomas Pattison, of the Animal Husbandry Department, left the first of the week for Denver, Colo., where he gave a demonstration before the National Live Stock Show in meat cutting, similar to the one given here during institute week.

A preliminary count in the Secretary's office last Tuesday showed that 1923 students had paid their incidental fee for the winter term during the first week. A full report of attendance by classes will be published in the next Industrialist.

The sale of shorthorns held last Tuesday at the College sale pavilion was fairly successful. The cattle offered were from excellent herds in Iowa and Minnesota and brought good prices. Most of the animals offered were bought by Riley and Pottawatomie breeders.

Among the Christmas gifts received by the College (the institution usually receives about a wagon load of wall calendars, advertisements, sample cards, text-books, etc.) was a cash donation of five dollars to the library, sent by a former student, Miss Amanda Christensen, of Corning, Kan. Thanks.

Regents Blackburn and Sponsler and President Waters, the building committee of the Board of Regents, met last Monday afternoon at the College to open the bids for the new Gymnasium. The lowest bid was \$95,000 and the highest \$128,000. Since the cost of the plumbing, heating and ventilating apparatus, together with the necessary lockers, is estimated at \$20,000, the acceptance of even the lowest bid was out of the question. The committee adjourned until February 7, when they will again meet to open bids on the structure as modified by the State Architect so as to come near the eighty thousand dollar mark. The changes proposed by the State Architect will not reduce the size or form of the building. He will try to decrease the cost by specifying a cheaper stone facing and a simpler roof.

The Poultry Department of the Kansas State Agricultural College is desirous of sending out over the State eggs from pure bred poultry, free of charge. This is one of the best ways any person wishing to add pure-bred stock to his present flock may obtain what he desires without any cash outlay. Many people on the farm have always objected to paying one dollar or more for eggs to set or stock with which to improve their flock, but by this method they can do both easily. If anyone is desirous of taking advantage of the opportunity thus offered, an inquiry sent to A. G. Philips, Kansas State Agricultural College, Manhattan, Kan., will bring a reply, fully describing this splendid proposition. Eggs may be obtained in large quantities from Single Comb White Leghorns, and in smaller quantities from White Plymouth Rocks, Barred Plymouth Rocks, White Wyandottes, Rose Comb Rhode Island Reds, and Cornish Indian Games.

Director Webster, of the Experiment Station, has had installed in the Printing Department an Addressograph and Graphotype. The former is, as indicated by its name, an addressing machine. It is a masterpiece of inventive genius and mechanical skill. Graphotype is for stamping the addresses on metal plates. are arranged so as to form a complete card index of the several mailing lists, and gives the system so long needed in handling the bulletin and other mailing lists. Provision is made for 30,000 names, and more may be added as required. For this list six sectional (unit) storage cabinets are required, which may be added to at any time. These may be put together as one large cabinet, or they may be arranged as tables. Both the machines are motor driven, and with the cabinets make a handsome group. quired considerable time to decide which of the various mailing systems to install, but the Addressograph was finally chosen. cost of the outfit, ready for operation, will be about \$1800.

C. G. Elling, '04, writes to Prof. R. J. Kinzer of this College from Cuba: "I am getting along very well. I am feeling pretty good, This company gave me a New Year's present of \$600, which will come in pretty handy. I also get a two-months' vacation next summer, when I hope to see you all. They are paying me \$2100 now and privilege to keep a little stock. I have good quarters and board and am well satisfied. This company owns seven plantations in Cuba and two in Louisiana. In this plantation there are 65,000 acres, of which 5000 acres are in cane and the rest in pasture, and the latter is mine to look after. We just started the live-stock industry when I came. At present we have a breeding herd of 900 cows, 1000 oxen, 102 mules, 160 horses and mares, and The whole thing is divided into departments—engineering, railroading, cultivation, stores, chemistry, and live stock. We kill from one to three head of cattle each day and two hogs a week for plantation use. I sold one hog for \$37, and they average When we get stocked up I think we can keep from 10,000 to 12,000 cattle. In the last year we are substituting mules for oxen, and they are a great success. We have also eleven locomotives and 200 cars to haul cane, a boat to haul sugar, two automobiles, and there are 150 miles of track. The company hopes to make 180,000 bags of sugar this year (325 pounds in a bag). Have been kept pretty busy getting the department started, but hope it will go along very well now."

Professor Walters has received the following interesting letter from a former student: "I wonder if you can let your mind run back to 1881 and remember a young, red-headed, freckled-faced chap, whom everybody in Manhattan, from President Fairchild down, used to know as Jack Brady. If you can, this letter is from that same chap, grown into manhood, rich in experience, and getting along well in years. I received this morning a copy of The Alumnus, and I saw in there a notice of your book, 'The History of the Kansas State Agricultural College,' and I have much pleasure in enclosing my check for a copy. My life has been very full since I had the pleasure of last seeing you. I have been in almost all parts of the world, but now my traveling days are over and I am living in this splendid city, in the great Hoosier state, and am vice-president and general manager of a rapidly growing life insurance company. I presume if I came to Manhattan I would see very few familiar faces, but yet there rises in my mind's eye to-day, as I write to you, the old barn where I first attended chapel exercises, and I can see Professors Ward and Platt, Failyer and you, and Graham and Albert Todd and Hawkes, and George Thompson, and all the rest. I can see the erection of the new building grow stone by stone-first the north wing, then the central part—and after that, I left the College. I look back on those days with pleasure and I hope sometime in the future to go there and renew the scenes of my boyhood. Permit me to wish you and the splendid institution with which you are connected a 'Happy and Prosperous New Year.'"

Mr. W. S. Gearhart, highway engineer, Farmers' Institute Department, and his two assistants were busy during the holidays drawing plans for cement concrete bridges. It is the intention of Mr. Gearhart to prepare a complete series of drawings for bridges and culverts of all sizes and send sets of them, together with standard specifications, to the county engineers.

Alumni and Former Students.

Smith Faris, '06, is now in the employ of the York Manufacturing Company, York, Pa., his address being 375 West Philadelphia street.

Cecile Allentharp, '07, Medicine Bow, Wyo., is teaching one of those little schools found only on the frontier and thirty miles from a railway.

We have received information that Eva Philbrook, '97, was married to W. H. Jones, of Salina, Kan., January 1, 1910. They are at home at Wakeeney, Kan.

W. L. Hall, '98, assistant forester in the Department of Agriculture, is the leading author of a valuable circular on "Surface Conditions in Stream Flow," which deals with the flow of rivers, erosion of the soil, etc., as influenced by surface conditions, especially the presence of forests.

Jessie (Bayless) Staver, '98, with her two children, is spending the winter at the home of her brother, near McAllen, Texas. That is a new country which is being rapidly settled with people from all parts of the Union and where the uncertainties of rainfall are replaced by irrigation. She wishes the Industrialist to follow her there.

Changes of address: Abby L. Marlatt, '88, 248 Langdon street, Madison, Wis.; H. V. Harlan, '04, and Augusta (Griffing) Harlan, '04, 326 Maryland Avenue, Washington, D. C.; Nickolas Schmitz, '04, College Park, Md.; L. S. Edwards, '03, Stanford, Mont.; F. W. Haselwood, '01, and Maud (Zimmerman) Haselwood, '02, 903 Filbert street, Oakland, Cal.; M. W. McCrea, '93, Hemet, Cal.; W. G. Shelley, '07, G. I. Office, Bureau of Plant Industry, Washington, D. C.; C. M. Buck, '96, and Winifred (Houghton) Buck, '97, 615 Poyntz Avenue, Manhattan Kan.; R. N. Dorman, '04, 1221 N. Monroe street, Station A, Topeka, Kan.; Grace (Parker) Perry, '80, Salmon City, Idaho; J. C. Christensen, '94, Manhattan, Kan.; E. A. Donaven, '94, Pryor, Okla.; F. E. Johnson, '99, Burwell, Neb.; Lieut. L. B. Bender, '04, Fort Monroe, Va.; C. E. Davis, '06, Lewistown, Mont.; O. R. Wakefield, '04, Care of Butler Bros., Medical Department, Randolph street Bridge, Chicago, Ill.; C. H. Stokely, '97, 4908 Wyandotte street, Kansas City, Mo.; F. W. Grabendike, '07, Box 634, Wichita, Kan.; M. V. Hester, '94, Paonia, Colo.; Nettie (McLaren) Scott, '99, Altoona, Kan.; Minnie L. Copeland, '98, 918 Topeka Avenue, Topeka, Kan.

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THE

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No. 13

The Benzoate of Soda Question.

J. T. Willard, Professor of Chemistry.

The use of chemical preservatives is one of the most difficult questions that food officials and food commissioners have presented to them for decision. With the development of modern chemistry many substances have been discovered which possess a marked antiseptic power, that is, they prevent the growth of the microscopic organisms that produce fermentation and decay. In the broad sense the preservatives in use from time immemorial—sugar, common salt, vinegar, and wood smoke—are chemical preservatives as truly as the more active ones of modern origin. They differ, however, in that having been in use for so long their effects upon the digestibility and wholesomeness of foods are seldom brought into the discussion, while the more powerful proposed substitutes are being made to run the gauntlet of scientific investigation with especial reference to their effects upon the health of consumers of food preserved by their use.

Certain of these modern chemical preservatives are more generally recognized as injurious than are others, though even those are advocated by some, usually more or less financially interested, individuals or classes. Thus sulphites and sulphurous acid, borax and boric acid have their advocates as well as their detractors.

Probably sodium benzoate or benzoate of soda is the most widely used and tolerated of the newer preservatives, being employed especially in soft drinks, catsup, and other relishes, sirups, etc. With the growing attention to the quality of foods permitted to be sold the question of the use of sodium benzoate has become more and more acute. Some food commissioners have taken the ground that its use should be altogether prohibited, while others have considered that in small percentages it might be permitted pending the results of investigations concerning its physiological effects.

A few years ago the Bureau of Chemistry, United States Department of Agriculture, of which Dr. H. W. Wiley is Chief, began investigating the effects of different preservatives upon healthy people. The young men who cooperated in these tests were of

high class, took their meals at the same table, and were under rigid obligations in respect to consumption of food elsewhere. They were dubbed as Doctor Wiley's "Poison Squad" by the newspapers. Such groups were used in investigating boric acid and borates, salicylic acid and salicylates, sulphurous acid and sulphites, and formaldehyde, in addition to benzoic acid and benzoates. In all of these cases Doctor Wiley found in his judgment more or less injurious results from use of the preservatives. In some cases, however, these preservatives had been permitted under restrictions as to quantity.

In Food Inspection Decision 76 the Secretaries of Agriculture, of the Treasury and of Commerce and Labor, Messrs. Wilson, Cortelyou and Straus respectively, approved a decision made by the Board of Food and Drug Inspection consisting of Messrs. Wiley, Dunlap, and McCabe. This decision is dated July 13, 1907, and, among other provisions, permitted the sale of food products manufactured or packed during the season of 1907 containing not to exceed one-tenth of one per cent of sodium benzoate, or benzoic acid equivalent thereto, if these preservatives had previously been generally used in such foods. The decision had attached to it a memorandum which was not signed by Doctor Wiley and one paragraph of which stated the reasons which led the board to permit this use of sodium benzoate. They said: "There is a difference of opinion among experts as to the harmfulness of sodium benzoate or benzoic acid. Some manufacturers of food and food products have used this preservative in the honest belief that it is harmless. In the opinion of the Board it is harmful and its use should be prohibited." The remainder of the paragraph is a justification of the temporary permission to use these substances because of commercial interests involved. A later decision permitted the continued use of benzoate of soda pending further investigations.

December 26, 1907, Doctor Wiley submitted the results of his experiments with men to determine the effect of benzoic acid and benzoates upon digestion and health. This was published as Pary IV of Bulletin 84 and was an unequivocal condemnation of these substances. These results foreshadowed a complete prohibition of the use of sodium benzoate and at once aroused the active opposition of manufacturers interested. As a result of the activity of these interested individuals and corporations, President Roosevelt appointed what is known as the Referee Board of Consulting Scientific Experts. The legality of the appointment of this board has been questioned by some, but subsequent adjudi-

cation has been in favor of the view that it was warranted. The board as appointed consisted of Ira Remsen, President of Johns Hopkins University and of the highest reputation as a teacher and investigator in the field of organic chemistry; Russell H. Chittenden, professor of physiological chemistry in Yale University and one of the foremost authorities and investigators in physiological chemistry in this country; Dr. Christian A. Herter, of the College of Physicians and Surgeons, New York City; Dr. John H. Long, of Northwestern University, Evanston, Ill., and Dr. Alonzo S. Taylor, of the University of California. Doctor Taylor was abroad and took no part in the investigations conducted.

The questions submitted to the Referee Board were the following:

(1) "Does a food to which has been added benzoic acid, or any of its salts, contain any added poisonous or other added deleterious ingredient which may render the said food injurious to health?

(a) In large quantities? (b) In small quantities?"

(2) "If benzoic acid or any of its salts be mixed or packed with a food, is the quality or strength of said food thereby reduced, lowered, or injuriously affected? (a) In large quantities? (b) In small quantities?"

It was considered necessary to make careful investigations on the effect of benzoic acid or benzoates, and three independent investigations were carried out, one at the Medical School of Northwestern University in Chicago under the charge of Professor Long: a second at the private laboratory of Professor Herter, and the third at the Sheffield Scientific School of Yale University in charge of Professor Chittenden. Professors Chittenden and Long each experimented upon six young men, and Professor Herter used four in his investigations. The general character of the experiments was much the same; in fact, the principal features of the investigation were agreed upon. In each case the experiment included a fore period in which no preservative was administered, followed by a period of 60 days during which 0.3 gram of sodium benzoate was administered with the food to each subject daily. Following this there was a short interval without preservative, succeeded by four weeks in which larger and increasing doses of from 0.6 gram to four grams of sodium benzoate were administered per day. Observations were also taken upon the subjects for an after period of ten days. These periods are as employed by Professor Chittenden, and those of the other investigators were of the same character, though not exactly the same length.

The results of these three investigations have been published as report No. 88 of the United States Department of Agriculture, issued May 4, 1909. This is a volume of 784 pages, consisting largely, however, of detailed tables of records concerning the men, their food, condition, etc., and the clinical and chemical observations.

The main general conclusions reached by the Referee Board were as follows:

(1) "Sodium benzoate in small doses (under 0.5 gram per day) mixed with the food is without deleterious or poisonous action

and is not injurious to health.

(2) "Sodium benzoate in large doses (up to 4 grams per day) mixed with the food has not been found to exert any deleterious effect on the general health, nor to act as a poison in the general acceptation of the term. In some directions there were slight modifications in the general physiological processes, the exact significance of which modifications is not known."

(3) "The admixture of sodium benzoate with food in small or large doses has not been found to injuriously affect or impair the

quality or nutritive value of such food."

The experiments conducted by Doctor Wiley were upon twelve men who, after a preliminary period of ten days, were administered the sodium benzoate for twenty days and were under observation through an after period of ten days. The sodium benzoate administered was one gram per day at first, increasing by onehalf gram every five days, so that in the last sub-period two and one-half grams were given daily.

In the experiments conducted, both by Doctor Wiley and the Referee Board, elaborate observations and tests were made touching the physical condition and the metabolism of the subjects.

The immediate result of the report of the Referee Board was the issuance of Food Inspection Decision 104 by Secretaries Cortelyou, Wilson, and Straus, in which for our present purpose the

following paragraph is the significant portion:

"It having been determined that benzoate of soda mixed with food is not deleterious or poisonous and is not injurious to health, no objection will be raised under the Food and Drugs Act to the use in food of benzoate of soda, provided that each container or package of such food is plainly labeled to show the presence and amount of benzoate of soda."

It will be seen that there are thus presented the results of two scientific researches on the same problem in which the investigators arrived at directly opposite conclusions. Such a situation

could not but provoke warm discussion by all interested to whom the facts became known, and it would seem almost inevitable that scientific research must lose somewhat in its acceptance as authoritative by the public unless in some way the divergence of the results in the two investigations can be accounted for. The most noticeable immediate result, however, was vociferous jubilation on the part of manufacturers who desire to use sodium benzoate, mingled with more or less acrimonious comment on the one side or the other concerning Doctor Wiley and the Referee Board. Into this we cannot at this time enter.

In August, 1909, the Thirteenth Annual Convention of the Association of State and National Food and Dairy Departments met in Denver, Colo., and almost every act of the meeting was determined or influenced by its relation to the benzoate of soda question. Although it was not necessary for this association to take any vote on the question at all, those favoring the use of sodium benzoate were determined to force a formal vote on the question. Candidates for office were lined up and delegates from the different states arranged themselves in accordance with their respective views concerning the use of sodium benzoate. Every opportunity to seize a tactical advantage that parliamentary law or individual audacity could suggest was used. The benzoate people had their campaign more effectually planned and organized, but those in opposition were not without resource. To a scientific man, however, whose attitude should be that of seeking to ascertain the truth in a dispassionate manner, and independent of commercial interests or individual reputation, the entire proceeding was one that could arouse nothing less than profound regret, accompanying which actual disgust was justifiable. A purely scientific problem was presented for an alleged judgment in which the tactics of ward politicians were the chief methods.

To the dispassionate mind it would seem that the results of eminent scientific investigators like Doctors Wiley, Chittenden, Long and Herter should all be taken as honest efforts to arrive at the truth concerning an exceedingly complex problem, and that seeming contradictions in their results must be susceptible of harmonization in some way. It would seem that it should be clear that before pronouncing a final opinion concerning the admissibility of sodium benzoate in unrestricted quantities in our daily food, additional investigations are necessary.

Some differences in the mode of conducting the experiments as carried out by Doctor Wiley and by the Referee Board may be mentioned to show that it is quite possible that all of the investi-

gators were equally unprejudiced, although their results and conclusions were more or less at variance. Doctor Wiley administered the preservative in capsules, and under such circumstances the subject knew, of course, when he was getting the preservative. As the capsule softened it would be possible for the preservative to be set free in the stomach in such a way as to come in contact with its lining in a highly concentrated form, though naturally the peristaltic movements would mix the drug before long. In the experiments conducted by the Referee Board the preservative was dissolved in one of the articles of food and the subject had no knowledge as to what food contained it or when its administration began. In this way, too, the drug never acted upon the membrane in a concentrated solution.

Further, the minimum amount administered by Doctor Wiley was one gram per day, with amounts rapidly increasing to two and one-half grams after sixteen days. The dose used for two months by the Referee Board was only 0.3 gram per day, and the amount given in the second period of the larger and increasing dosage was from 0.6 to four grams, four weeks being occupied by this period. Here we have a material difference in the conditions. Three tenths gram per day was adopted by the Referee Board as representing the maximum amount that would be likely to be taken by one in food containing one-tenth of one per cent of sodium benzoate. It seems easily credible that this smaller dosage might be borne by healthy individuals without the production of marked adverse symptoms, while larger doses, especially before the organism had become adjusted to the drug, might produce some marked unfavorable symptoms.

The interpretation of results in investigations of this kind is exceedingly difficult, and the mental attitude of the subjects and the investigators cannot but be of serious moment. In the experiments conducted by the Referee Board, as well as in those under Doctor Wiley's direction, there were cases of disturbance of the intestinal tract as indicated by vomiting, diarrhea, etc. There were also other abnormal conditions. The members of the Referee Board account for these as but ordinary occurrences to which one on any sort of dietary might be liable, while Doctor Wiley is disposed to charge them all to benzoate of soda. Such untoward symptoms were of much more frequent occurrence in his investigation, also.

Examination of the detailed accounts contained in the 258 pages of Doctor Wiley's bulletin and the 784 pages of that of the Refered Board, it seems to the writer, should convince the unprejudiced

reader that both sets of experiments were performed with care, and that the symptoms were impartially recorded, and that all of the results are valuable and must be given adequate weight in arriving at a complete opinion concerning the use of benzoate of soda.

The writer has no prejudice against the use of the preservatives recently discovered. Personally he would much prefer to see the excess of salt commonly met in cured meats replaced by something less repugnant to the taste and destructive of the texture than is common salt. He has little doubt that the extent to which common salt is present many times in cured meats diminishes their food value and is more or less injurious to the animal organ-There are also unmistakable indications that smoke renders articles preserved by its use more or less objectionable physiologically to many individuals. It would seem that the time-honored preservatives and the newer ones should be considered from Progress would certainly be checked, and the same standpoint. even prevented, should we in anything assume that all innovations are wrong, that the old and established only should be permitted. It would seem, however, to require no argument to lead to the acceptance of the position that any question touching the use of a preservative or even of a food is one which cannot be settled in all its aspects by one or even a few investigations. The animal body is too complex; psychological influences are by no means inconsiderable; each investigation should provide a better basis for subsequent ones, so that ultimately a body of results should be accumulated that would enable judgment to be made safely concerning any of the details. In the meantime nothing is gained by attempting to belittle any investigator or to impugn his motives.

One other point: It is a common statement that the sale of articles of food which are at all injurious or unwholesome should not be permitted. A little reflection will show that such a policy is impossible. It has passed into a proverb that "What is one man's meat is another man's poison." Even though a food article may not be so deleterious or objectionable as to be classed as a poison, it may easily be so much of a tax upon the organism as to be objectionable for many people, while many others may be able to consume it with impunity. Radishes are an affront to many stomachs, but should their sale be prohibited? Tea and coffee are undoubtedly injurious to many; should they be interdicted by law? Examples might be multiplied indefinitely, the fact being that no sharp dividing line can be drawn between unobjectionable food materials and those which are so harmful that their sale

should not be permitted. It is far more important that purchasers should be given as complete information as possible concerning the food-stuffs which they are buying, in order that they may form intelligent judgments concerning their own physiological relations to the article bought. The requirement that the presence of benzoate of soda and its amount in the food-stuff shall be declared on the label will enable the consuming public to act as the supreme court in the benzoate of soda case, and its continued use or its abandonment will probably be determined by the law of acceptance or refusal.

The great danger from the modern chemical preservatives of uncertain physiological power is that users, ignorantly, carelessly or criminally, will employ them in unknown large quantities, and that, instead of reaching the stomachs of healthy young men only, the foods so treated will be given the aged, the delicate, and the sick and invalid. The fact that these preservatives impart but little or no taste to foods puts their use beyond the power of detection by the ordinary consumer. Unless it is absolutely demonstrated that, when taken in food in practically unlimited amounts, no deleterious effect is produced on persons low in resisting power, it will always be necessary to restrict their use and to protect the public by constant inspection and analysis of foods, or else to prohibit them altogether.

Experiments concerning the effects of sodium benzoate have been made by others than those mentioned herein, and considering the entire situation it would seem difficult to escape the conclusion that much investigation is necessary before we can thoughtlessly consume benzoated food, and that in the meantime we should use it, if at all, only in food accessories taken in small quantities. Pending further investigation the consuming public should, by refusing to purchase, resist all movements in the direction of using benzoate of soda in staple food articles.

The Entomology Department of the Kansas State Agricultural College is giving instruction to large classes in geology, embryology, zoölogy I and II, and entomology I and entomology III. A total of three hundred six students are receiving class instruction and two hundred eighty-six laboratory instruction in that department this term. Embryology is being given for the first time, and thirty-four students are enrolled in class and laboratory. A considerable number of these students have elected this course.

Greetings from the State Normal.

(Pres. J. H. Hill, at the Inauguration of President Waters.)

It is with unaffected pleasure, and not as a perfunctory matter, that I come to-day with the greetings of the faculties and students of the Normal Schools of Kansas and to congratulate this noble institution upon the auspicious opening of a new era in its history.

It is a far cry from the primitive beginnings of the State Agricultural College, almost half a century ago, to its present splendid achievements and outlook-more than the fathers could have dreamed or hoped. Yet they were dreamers of great things. is a significant fact and a striking commentary on the spirit of Kansas that even in the stress of biting poverty, and in the very midst of the scenes of battle, our three leading educational institutions, the University at Lawrence, the Agricultural College at Manhattan and the State Normal School at Emporia, were all located by the legislature of 1863. Of these the Agricultural College was the first to open its doors, two years after Kansas became a State, and within a year after the passage by Congress of the Morrill law creating the system of agricultural colleges with national aid. Isaac T. Goodnow, one of the founders of the good town of Manhattan, and one of the men whose memory is to be revered among the makers of Kansas, perhaps more than any other one man worthy to be called the father of our Kansas schools, said in his first annual report as state superintendent of public instruction in that 1863, "To retard the cause of education, we had first the border troubles of 1855 and 1856, the financial crisis of 1857, the drouth of 1860, and lastly the rebellion of 1861. If, with one-seventh of our population in the army, with the excitement and dangers from border raids, we can show continual progress in the work of education, no higher compliment can be paid to the virtue, intelligence and heroism of our citizens; and truly we can 'thank God and take courage.'"

To "thank God and take courage" is now as then the key-note for our educational advance. The high ideals, the healthful optimism and the rugged persistence of the men of that earlier time is bearing still its splendid fruit. The educational institutions of Kansas never had a larger place than now in the life of the State, were never meeting greater needs in our social development than they are to-day. If they do this work effectively they must do it in the broad spirit of coöperation that has just been emphasized; but they must each of them fulfil their distinctive mission within the reasonable limits of their respective fields with a broad inter-

pretation of the scope of education and with the absence of such restrictions as will narrow and defeat the ends for which they are appointed to serve the State.

This Agricultural College, with its equipment, its faculty of trained experts, its hold upon the industrial life of the State, has a great work to do in its relation to every phase of constructive and productive activity in home and farm and factory and shop, but it is ever to be remembered that its work is more than that. It has been established by the State not primarily for the making of farmers or of artisans, nor yet of architects or engineers or homekeepers, but for the making of men who can farm, of women who are to be the makers of homes; not artisans alone, not alone masters and leaders in every industrial field, but men and women who, in the broad sense of the word, have been educated for the service of the State, who, in their intellectual and social life, in their civic and personal relations, as well as in vocational lines, represent the ideals of trained and efficient manhood and womanhood that the State needs and the State has a right to demand.

The scope of modern education has infinitely broadened, the demands upon the schools have multiplied bewilderingly with the increasing complexity of our modern social and commercial life, the astounding strides of scientific research, man's mastery over nature, and his larger knowledge of the application of her laws to daily needs. With this broadening of the domain of human knowledge and its application to life has broadened in like measure the original conception of the scope and purpose and the activities of an institution like this. In a special sense the spirit of our modern society is epitomized in the broadening of the activities of a school like this. Gratifying as has been its growth in the past, great as has been its efficiency, in the light of this thought, its possibilities for the future loom larger than ever before in the expanding life of our yet young commonwealth. I congratulate you, sir, whom we welcome to-day, on this outlook and these possibili-But I am come to speak as a teacher and a trainer of teachers, and as I feel the inspiration of this assemblage, deeply as I appreciate the significance of the organized industrial and scientific activities of an institution such as this, I cannot but see the larger opportunity, the real school, in the joy of contact with this eager, responsive company, representative of Kansas' stalwart, knowledge-loving, aspiring young manhood and womanhood. is he to whom the teacher's vocation gives chance for service in such an environment as this. Into this goodly heritage of opportunity I welcome you.

Professor TenEyck Goes to Hays.

The new regime at the Kansas State Agricultural College under Pres. H. J. Waters is beginning to show itself in every department of the institution. At their winter session last week the Board of Regents established a new chair for the forwarding of farm interests, that of Professor of Farm Management, and elected to it Prof. Albert M. TenEyck, at present the professor of agronomy. The Professor has been recognized as an authority on this and kindred subjects for years. To enable him to carry out his extensive line of experiments in this and other lines, and especially the demonstration on a full-sized scale of the possibilities in Kansas farming and stock growing, the Board complied with Professor TenEyck's request and elected him superintendent of the splendid four-thousand-acre farm at Hays. He will take charge of it at the end of the school year and spend the summer on this, the greatest experimental and demonstration farm in the world, while he will give his winter months to lecturing at the College.

In addition to providing a new phase of activity in behalf of the farmer at the farm and College the position of Superintendent of the Hays Station will enable Professor Ten Eyck to assist directly in the solving of the pressing problems of the western half of the State, to give more attention to the constantly growing demand for information and advice concerning western farm operations, and to meet the people of the State at farmers' institutes and similar gatherings.

Professor Ten Eyck has the question of the production of purebred wheat and corn developed to the limit of the Manhattan farm and with the larger acreage at his command at Hays he will have a vastly greater quantity of such pure seeds with which to supply the farmers who are asking for it in every mail. He will be a main factor in solving the great problem of more grain from fewer acres.

We are in receipt of Vol. I, No. 1, of *The New Education*, a semi-monthly published by the Oklahoma Agricultural and Mechanical College. It is a handsome little paper printed in two colors and "full to the brim" with articles on modern technical education.

Director E. H. Webster, of the Experiment Station, went to Wichita last Wednesday night to attend the Southwestern Kansas Millers' Convention. He gave an address on the new work in milling taken up by the College.

Local Notes.

Dr. J. T. Willard is working on the time schedule for the spring term.

Supt. J. D. Rickman attended a meeting of the teachers of journalism in colleges and universities of the United States, last Wednesday at Lawrence. A full report will appear in next issue.

State Dairy Commissioner D. M. Wilson and Deputy Commissioner M. R. Alleman are in the southern part of the State this week giving examinations to cream buyers. On January 18 they were at Marion, on the 19th at Wichita, on the 20th at Winfield, and on the 21st at Eldorado.

Director E. H. Webster, of the Experiment Station, goes to Washington, D. C., to-day (Saturday) to attend a meeting called for the purpose of organizing a pure stock feed association; that is, an association for the purpose of securing laws for the regulation of the manufacture and distribution of stock feeds of all kinds.

James A. Jennings, student in the short course in agriculture, died last Monday in Park View Hospital of peritonitis. His body was sent home to Vesper, Lincoln county, for burial. Mr. Jennings was twenty-three years old and a strong looking, bright boy. He had been in his class only a day when attacked by the disease. Two brothers and a sister were with him at the time of his death.

The management of the farm mechanics short course has completed the arrangement for lectures and demonstrations in farm machinery as follows: January 24, Plows-Rock Island and John Deere Plow Company; January 31, Harrows, Rollers, Rockers, Pulverizers, and Manure Spreaders-Rock Island Implement Company; February 7, Grain Seeding and Grass Seeding Machinery-John Deere Plow Company; February 14, Corn Planters —John Deere; February 21, Corn Cultivators—Rock Island Implement Company and Rhodes Implement Company; February 28, Haying Machinery-John Deere; March 7, Harvesting Machinery-International Harvester Company; March 14, Threshing Machinery—Avery Manufacturing Company. The farm mechanics class is in charge of Floyd Howard, of the Agronomy Department. One hundred and eighty-four students are enrolled in The meetings will be held in the stock judging pavilion at the barn. Arrangements have been made with several farm machinery firms to supply machinery to be used in these ex-A number of farm machinery experts representing several of the more noted firms will assist in these demonstrations and give lectures to the students. The course promises to be very instructive, practical, and popular. On account of the large number of regular students no general invitation can be given the public to attend these demonstrations and lectures, but as a courtesy to the visiting experts and lecturers, as well as for the benefit of other students, those especially interested may secure attendance tickets by calling at the Agronomy Department office.

The Board of Regents at their recent session let the contracts for the erection of a new greenhouse. It will consist of six sec-There will be a lean-to twenty feet wide tions, each 100 by 24 feet. across one end of the six sections. The new structure will be located north of Horticultural Hall and will be used jointly by the Departments of Horticulture, Entomology, Botany, and Agronomy. Four of the sections will be used by the Department of Horticul-Walter Stingley, of Manhattan, is contractor for the concrete foundation and walls. The glass parts will be erected by John C. Moninger & Company, of Chicago, Ill. The heating and plumbing will be done by Hull & Son, of Manhattan. last legislature made an appropriation of \$10,000 for this purpose. and we expect to complete the building by June 30, '10. This will give the Kansas State Agricultural College the best greenhouse equipment of any College in America.

Alumni and Former Students.

Belated information has just reached us that Burton L. Short, '82, of Kansas City, Kan., died last July.

J. L. Pelham, '07, and Mrs. Pelham are rejoicing in the birth of a daughter, January 3, 1910. Mr. Pelham is now foreman of the Underwood Orcharding Company, Hutchinson, Kan.

The many friends of Professor and Mrs. W. H. Olin, '89, will learn with deep regret that Mrs. Olin died Saturday, January 15, in Denver, Colo. The funeral services were held Monday. Mrs. Olin will be remembered as Winifred Cotton, former student. No further particulars are at hand concerning the sad event.

Earl Wheeler, '05, has resigned his position as director of the department of electrical and mechanical engineering, Engineer School, U. S. A., to become electrical and mechanical engineer of the Electric Speedometer and Dynamometer Manufacturing Company, 1317-1319 New York Avenue, Washington, D. C.—Students' Herald

E. F. Nichols, '88, president of Dartmouth College, visited a few hours with his uncle and aunt, Mr. and Mrs. S. M. Fox, on the 14th and 15th instant. His plans were such as to prevent his visiting the College this time. He is making a tour of a part of the country for the purpose of becoming acquainted with the alumni of Dartmouth College by meeting them in the alumni associations located in the larger cities.

We are in receipt of a copy of the paper by S. W. Williston, '72, on the question "Has the American College Failed to Fulfil Its Function?" which he presented to the National Educational Association in Denver last summer. Doctor Williston's paper is a trenchant indictment of colleges as at present administered, and he also takes opportunity to criticize the high schools as failing in their function, being operated almost exclusively as feeders for the college and its narrow pursuits, instead of meeting the actual needs of the local population.

Board of Instruction (concluded from second page).

INSTRUCTORS (Concluded).

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Floyd HowardSuperintendent of Poultry PlantFarm Foreman

INDUSTRIAL Society

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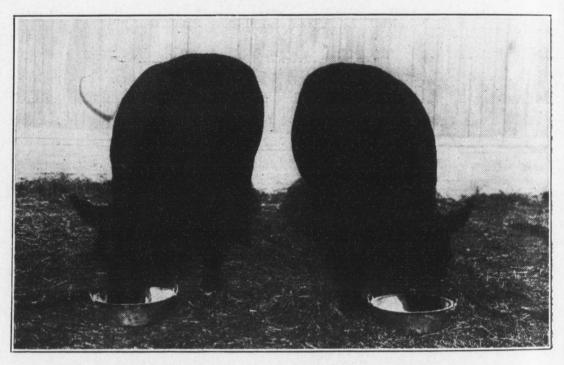
The Three Champions.

King Ellsworth, the grand champion steer at the International Live Stock Exposition in 1909, was bred by Mitchell & Lantz, of Danvers, Ill. He was sired by Fivy's Forester 78630 and out of Queen Etta Viola 42938, belonged to the great Queen mother family of the Angus breed, a family from which many noted prizewinning Angus cattle have descended. King Ellsworth was calved September 6, 1906, and was first shown as a yearling at the International Exposition in 1908. At that time he was very smooth, but hardly carried enough fat for a prime bullock, but his general smoothness, his true lines, characteristic Angus head, his short legs, smooth shoulders, well-sprung ribs, made him a very attractive steer, and when the ribbons were awarded he was in second place in a very strong class of twenty-nine entries. He was defeated by the thick, blocky, richly covered steer Eclipser, shown by the Minnesota Agricultural College.

King Ellsworth's first show this year was the Kansas State Fair, at Hutchinson, where he was an easy winner in the two-year-old class. The following week he was again an easy winner in his class at the St. Joseph show, but was beaten for the grand championship of the show by the shorthorn calf, Benefactor, also shown by the Kansas State Agricultural College. At the American Royal Live Stock Show at Kansas City in October he won in the two-year-old class, was champion among the pure breds of his breed, and was later made champion over all grades and pure breds.

His next show was the International, and it is interesting to note that the fight for first place in the two-year-old pure-bred Angus class this year was again between King Ellsworth and Eclipser, as it had been the previous year in the yearling class. Eclipser had been made grand champion steer at the South St. Paul show two weeks before. As the two steers stood in their stalls before the show they both had many friends for first place. Eclipser had grown a trifle heavy in the front end, was handling a little soft, and probably carried a little larger per cent of waste

than did King Ellsworth. When they came into the show arena the firm handling, neatness and smoothness of covering carried King Ellsworth to first place, and thus the steer that had defeated him the year before was out of his way and he was one step nearer the grand championship. A little later in the day he defeated the first-prize pure-bred yearling Angus steer, Symboleer, also owned



King Ellsworth, Grand Champion.

Symboleer, Reserve Grand Champion.

by the Kansas State Agricultural College, for the championship of the breed.

His next fight, and perhaps his hardest fight to gain the top, was with the first-prize grade two-year-old steer Doctor Gwinn. This steer was shown in prime condition and bloom, his coat of hair was as fine and silky as any bullock ever wore, his quarters and twist were well filled, but he lacked a little in the firmness of flesh required in a prime bullock. His shoulders were not as smooth or as well covered as those of King Ellsworth, his side lines were not as true, and he appeared a trifle heavy in the middle for the best type of a dressing steer, and here again the firm handling, smooth, even covering won for King Ellsworth the championship of the two-year-old class over all breeds.

His next and last fight for the highly coveted grand championship was again with a companion and stall mate for the past year, Symboleer; he, having been made champion over all breeds in the yearling class, had a right to contest for the grand championship. The English judge was but a few minutes in examining this class and soon his hand was placed on King Ellsworth as the grand champion steer of the Tenth International Exposition, the reserve grand championship falling to Symboleer.

Symboleer, the reserve grand champion at the recent International Live Stock Exposition, was bred and raised on the College farm. His dam, Sunflower Lady Stewart 63771, bred by Parrish & Miller, of Hudson, Kan., was bought for the College when a yearling heifer. His sire, Prince Duchess 89636, was bred by Stanley Pierce, of Creston, Ill., and was sired by the champion Prince Ito, a bull for which Mr. Pierce paid \$9100. Prince Duchess was bought by the College when he was a yearling and Symboleer was the first calf that he sired.

At birth Symboleer weighed 70 pounds. He was always a very strong, rugged, growthy calf. His mother was not a heavy milking cow, so he was early given a nurse cow and was allowed to nurse until shortly after he was a year old. His first show was at Hutchinson in 1908, where he easily won first in the calf class and later was made champion steer. At St. Joseph the same fall he was first in his class and a strong candidate for the championship, but was defeated by a more mature yearling steer. At Kansas City in 1908 he won first in his class but was defeated for breed championship by the two-year-old, pure-bred angus steer, Ideal, exhibited by the Kansas State Agricultural College. At the International Show in 1908 he won first in the calf class, and later was made champion calf over all breeds. At this show he weighed 1060 pounds.

He was shown at the same circuit of shows and fairs in 1909 as in 1908, and at each show won first in the yearling class, as he had done the previous year in the calf class. At the International he was made champion yearling over all breeds, and later was made reserve grand champion to King Ellsworth. It is very seldom that a calf is strong enough and forward enough to win a championship over all breeds if he goes back the second year in good enough form to again win championship honors. Symboleer is a steer that has no tendency whatever to roughness or coarseness. has a very strong back, puts on his flesh very smoothly, and is of the very best quality. His weight this year at the International was 1520 pounds, and many good judges who looked him and King Ellsworth over preferred him for the grand championship rather than King Ellsworth. He will be fed for another year's shows, and unless some accident should happen to him will next year again try out for championship honors.

The shorthorn calf, Benefactor, that has attracted so much attention during the fall shows by winning two breed champions ships and one grand championship, was bred by T. K. Tomson & Sons of Dover, Kan. He was sired by Barmpton Knight, the prize herd bull at the Elderlawn farm. His dam was Emily 5th by Lord Mayor, a bull used for many years at the head of Mr. Babst's herd at Auburn, Kan., and bred by Senator Harris, at Linwood. This calf was dropped November 2, and at St. Joseph the last of September showed at a weight of 820 pounds. an easy winner in his class as well as winning the championship in the shorthorn breed, and the following day under stock-yard judges was awarded the silver cup offered by Swift & Company for the best steer of any breed or age in the show. ican Royal in October his weight was 900 pounds. Here he won first in his class, but was defeated for the breed championship by the two-year-old Peak steer. At Chicago he weighed 1000 pounds. He won first in his class and was made champion of the breed, defeating the two-year-old Peak steer that had beaten him at the Royal, and under the English judge was made reserve champion calf over all breeds. He is one of the truest lined, thickest covered and smoothest calves that has been shown in the shorthorn class. His covering over his back and ribs is almost as thick as the average yearling carries and he is as smooth as an Angus. He will be carried over for next year's shows and should make a very strong candidate for first honors in the yearling classes next year.

A New Department for the Experiment Station.

(Prof. Ed. H. Webster, Dean of Agriculture.)

The present prosperity and the future progress of Kansas is inseparably bound up in her agriculture. Her broad prairies, smiling valleys, and wind-kissed hilltops, rich in nature's abundant stores of fertility, produce the corn and wheat and cattle that have made her famous. The farmer, out of the abundance of his yearly harvest, has laid claim to the comforts and luxuries of home as few of his city friends can enjoy. The favoring years and increasing values are making Kansas the Mecca of the dissatisfied ones from all parts of the country, and the result is shown by the addition of many substantial citizens and the constant increase in the demand for information about Kansas from men in other states.

In watching the wonderful development in agricultural production another factor which is contributing much to the permanency of the future has been almost overlooked. Along with the increased acres under cultivation and the multiplying of values for everything the farmer has to sell has developed a set of industries dependent on the farm, turning the wheat, alfalfa, corn and other staples into finished products for the markets of the world. These mills and factories are as truly a part of the agricultural development of the State as may be the raising of a bumper wheat crop or the constant increase in alfalfa acreage. So greatly have they progressed that few realize that Kansas is the greatest flour-making state in the Union; that she has more alfalfa mills selling the products of eastern and southern farmers than all other states combined; that she has the greatest broom-corn warehouses and dealers in the world, and can boast of the largest creamery that has ever been built.

The Agricultural College, through its Experiment Station, has had much to do with the splendid prosperity of the farmers of Kansas. The Station has developed new and improved strains of wheat and corn; has determined better methods of tillage, enabling the farmers to conserve moisture and become more independent of the climatic influences that in earlier days often left him with nothing but regrets for his labor.

These problems seemed so great and their solution so urgent that the Station, like the rest of folks, didn't note the development of those dependent industries converting the raw methods of the farm into finished products for the markets.

As age brings more thoughtful consideration and logical reasoning with well-balanced men, so it does with institutions, and the Kansas Experiment Station, which has just turned its twenty-first year, has caught a glimpse of the future and gathered some idea of its responsibility to the development of agriculture and its entirety.

In keeping with the spirit of this new conception, of its scope and responsibilities, the Board of Regents, at their last meeting, added a new division to the work of the Station, that of milling industry, and employed the best expert the United States Department of Agriculture had in its employ along grain and milling lines to take up the work. Mr. L. A. Fitz, K. S. A. C. '02, who will devote his time to the problems included in the new division, is not a stranger to the Kansas millers, and many of them have expressed their satisfaction in his selection. The details of this work will be described later by Mr. Fitz himself, after he has had time to go over this new field and estimate fully its possibilities. It is enough to say that every problem which has economic bear-

ing on the milling industry of the State will be subject to his special study. The millers of Kansas have signified their great interest in the work and promised support in every way possible.

It is planned to establish very soon an experimental baking plant, which will have the two-fold purpose of testing the breadmaking capacity of flours made from different kinds of wheat, and to conduct experiments in the technique of baking. As soon as funds are available an experimental mill will be erected for the purpose of testing the milling qualities of different Kansas wheats and to carry on a series of experiments in the operation of milling.

This new division will cooperate with the entomologist in learning how to combat weevil and other insects which cause millions of damage to wheat in stack and bin and to flour in transit, and with the botanist to control wheat diseases which affect the quality of flour.

It will aid in the distribution of improved seed wheat by cooperating with the Agronomy Department, and in short will give its whole time to these and other problems which will bring in return many millions of dollars to the wheat growers, millers and bakers of Kansas.

The creation of this new line of work in the Station is the beginning of a much wider field of usefulness of the Experiment Station to agriculture in Kansas. The end will not be until every industry which is related to agriculture has felt the influence and usefulness of the Station in its development.

Journalism Conference.

The first conference of the teachers of journalism was held at Lawrence on Wednesday, January 19. The meeting was called by Chas. M. Harger, professor of journalism at the University of Kansas. The program began at ten o'clock in the university chapel before the entire student body, Walter Williams, dean of journalism of the University of Missouri, Henry J. Allen, of the Wichita Beacon, and Chancellor Strong being the speakers. After chapel a meeting was held in the lecture room of Snow Hall, where Arthur Brisbane, editorial writer of the New York Journal and other Hearst publications, gave a very interesting talk on "What Schools of Journalism Should Teach." He also very ably defended "yellow" journalism. Mr. Williams spoke on "The Organization of a Professional School." A few other short talks were made.

At one o'clock a dinner complimentary to Mr. Brisbane and the

visiting delegates and newspaper men was given at the Eldridge House.

The afternoon session was held in the parlors of the Eldridge House, where short and interesting speeches were made by Prof. C. V. Gregory, Iowa State College, Prof. F. L. Martin, University of Missouri, William Allen White, Emporia, Henry J. Allen, Wichita, W. Y. Morgan, Hutchinson, Chas. Sessions, of the Kansas City Journal, Dave Leahy, Prof. E. B. Cogill, and others. Superintendent Rickman represented the College at the conference.

A permanent organization was effected by the election of Professor Harger as chairman and Dean Williams as secretary. Mr. Williams' invitation to hold the next meeting at Columbia, Mo., was accepted.

Chancellor Strong and Professors Harger and Flint are entitled to much credit for the success of this the first conference. They made the day a pleasant one to all who attended.

A Temperature and Moisture Incubator.

One of the most important advances in methods of studying injurious insects has recently been made at the Kansas Agricultural College in the perfecting of a constant temperature and moisture incubator. The moisture plan of this machine was designed and perfected, and the temperature plan perfected, by Dr. T. J. Headlee, of the Department of Entomology of that institution.

It has been recognized that all measures for the control of injurious insects depends absolutely on a knowledge of their life economy. This knowledge cannot be more fundamental until we understand exactly how the varying degrees of temperature and moisture affect them. Doctor Headlee recognized the importance of this knowledge and set about to perfect a system by which exact data could be secured. The present machine is the result of a vast amount of work. And it will be of great importance in the study of methods of control of insects injurious to staple crops—insects that every year exact a toll of millions of dollars from our State. Investigations have already been made to determine the optimum and fatal temperatures of several of our most injurious insect forms.

Essentially the incubator consists of a water-jacketed chamber with special provisions for heating and cooling the water within the jacket. The whole is surrounded by a non-conducting packing of wood shavings on all but one side. This side has a glass door

to admit the light. Heat is applied by allowing hot water to flow into the jacket around the chamber. A tube of mercury is placed in the water jacket, and when the temperature increases beyond the desired point the mercury expands and comes in contact with a platinum point, thereby completing a magnetic circuit which opens a valve and lets cold water from the ice box flow into the water jacket. At the same time it starts a pump which removes an equal amount of hot water. When the temperature has been reduced to normal the mercury contracts, the circuit is broken and the cold water valve closed.

The method for the control of moisture is even more remarkable. Enough growing plants or water vessels are set in the chamber to bring the relative humidity up to the desired point. Inside the chamber a strand of human hair, which has had the oil removed from it, is stretched in a brass frame. A lever is attached to this hair so that when the moisture increases beyond the desired point the hair expands and the platinum point of the lever touches a mercury tube and closes a magnetic circuit, which starts a fan that draws the air off from the chamber to a calcium chloride box, where it is dried, after which it is returned to the chamber. When the humidity returns to normal the hair contracts, the circuit is broken, and the fan stops.

The incubator has excited considerable interest and comment among the entomologists throughout the country, and the general opinion seems to be that it is a very important advance in methods of studying the life economy of injurious insects.

For the Advancement of Science.

The meeting of the American Association for the Advancement of Science at Boston during holiday week was well attended and very profitable. Three national entomological societies held their meetings at the same time. The Society of Official Horticultural Inspectors, with a membership composed of those officials actively engaged in horticultural inspection, met for three sessions. Among other results of the society's deliberations is a plan for the formulation of a central organization. A representative committee was appointed to formulate plans for such an organization. Mr. George G. Atwood, Chief of the Bureau of Horticulture, State of New York, was appointed chairman of this committee and Dr. T. J. Headlee, the professor of entomology at the Kansas State Agricultural College, one of its members. It is

hoped that this closer organization will give the society the sort of standing it should have.

Following the close of the meeting of the Society of Official Horticultural Inspectors the Society of Economic Entomologists began its two-day session. Many interesting papers were presented, and the general trend of opinion seemed to be that the country needs not so much the investigation of more species of insects as the more fundamental investigations of more serious forms. Doctor Headlee presented to the society some of the results of his work on the Corn Ear Worm, showing how forty per cent of the injury done by this insect can be prevented by practical cultural methods which in themselves tend to produce the highest yield.

Following the close of the meeting of Economic Entomologists, the Entomological Society of America opened its two-day session. The papers given in this session were devoted more to the systematic side of insect life. Doctor Headlee presented to this society a paper on the construction and use of a constant moisture and low temperature incubator. In the course of this paper he showed that the incubator had been designed by him for the purpose of determining the effect of temperature and moisture on the life economy of certain insects most injurious to staple crops. The members of the society readily saw how such an apparatus could be used to obtain a more fundamental insight into the life economy of insects generally, and how this would improve present methods of preventing their ravages. This paper excited considerable comment.

Private Gifts to Education.

Our country is unique among civilized nations in that so many immense sums have been given by private persons to the cause of higher education. The great universities in foreign lands are as a rule supported by the state. In our land, however, with the exception of the state schools, the colleges and universities as well as many other educational institutions are supported by endowments mostly contributed by private beneficence. The most munificent giver among these benefactors is John D. Rockefeller. The December issue of *The American Educational Review* gives the following list of Mr. Rockefeller's large contributions to education during recent years. This list is by no means complete:

General Education Board, \$48,100,000; University of Chicago, \$24,000,000; Rush Medical College, \$6,000,000; Rockefeller Insti-

tute for Medical Research, \$4,600,000; Barnard College, \$1,375,000; Southern Education Fund, \$1,125,000; Union Theological Seminary, \$1,100,000; Harvard University, \$1,000,000; Yale University, \$1,000,000; Teachers' College, \$500,000; Johns Hopkins University. \$500,000; Vassar College, \$400,000; Brown University, \$325,000; McMasters' College, \$275,000; Rochester Theological Seminary, \$250,000; Cornell University, \$250,000; Bryn Mawr College, \$250,-000; Case School of Applied Science, \$200,000; Oberlin College, \$200,000; Spelman Seminary, \$180,000; Newton Theological Seminary, \$150,000; Adelphi College, \$125,000; University of Wooster. \$125,000; Syracuse University, \$100,000; Smith College, \$100,-000; Wellesley College, \$100,000; Columbia University, \$100,000; Furman University, \$100,000; University of Virginia, \$100,000; University of Nebraska, \$100,000; Arcadia University, \$100,000; Indiana University, \$50,000; Mount Holyoke College, \$50,000; Shurtleff College, \$35,000; School of Applied Design for Women, \$25,000; Bucknell University, \$25,000; William Jewell Institute, \$25,000; Howard College, \$25,000; and seven small colleges, \$320,000.

The above list amounts in the aggregate to the immense sum of nearly ninety-four millions of dollars—a sum so large that no human mind can apprehend its magnitude. These enormous contributions have been made by Mr. Rockefeller since 1892. Other rich men and women, notably Andrew Carnegie, of Pittsburg, who has given almost as much for educational purposes as John D. Rockefeller, if libraries are counted, have given as freely as has he. It would be interesting and suggestive to have a list of all the large donations made to educational institutions during the last quarter-century by private wealth. What more impressive demonstration could be offered of the belief of great business men that the safety of business and the stability of our institutions rest upon the intelligence and trained morality of the people?

The Veterinary Department of the Kansas Agricultural College has been receiving this winter a great many specimens of heads of animals sent in for examination for rabies. Farmers who send these specimens should remember that the disease is contagious and that the specimens should be thoroughly packed and bandaged. Expressage must be prepaid in all cases and the department will insist, before undertaking an examination, upon having a complete history of the case.

Local Notes.

Our team defeated the Bethany College Swedes in a slow game at the Y. M. C. A. gymnasium last Tuesday by a score of 50 to 39.

Fergus Sunshine McKeever, a brand new baby boy, arrived Wednesday morning at the home of Professor and Mrs. McKeever. We congratulate.

The grand concert by the Central Concert Company, Wednesday night, January 26, in the Auditorium was well attended and a high-grade musical treat.

The subfreshmen class gave an informal party in the Women's Gymnasium Saturday night. Professor and Mrs. Price chaperoned the young people.

Pres. Joseph H. Hill, of the State Normal School, and State Supt. E. T. Fairchild looked over the College as members of the State Board of Education.

During the months of November and December the Entomology Department in their fight against the San José Scale sent out 7823 pieces of mail, upon which the postage amounted to \$197.

Senator Brady, editor of the Lawrence *Journal*, will lecture to the students in the printing course in K-57 on Wednesday, February 2, at 1:30. Everybody interested is invited to attend.

Asst. A. G. Philips estimates that his recent advertisement of free eggs for setting purposes brought over 4000 inquiries to the College. One mail brought 917 letters. Mr. Philips has called off the free egg offer.

There is an agitation started among the students for a students' hospital. The intention is to make a formal application to the Board of Regents for such a building, and it is understood that the Regents favor the idea.

The junior class has elected the following officers for the ensuing semester: Nell Hickok, president; W. N. Kelly, vice-president; Miss Towne, secretary; Rob. Christian, treasurer; R. H. McClure, marshal. E. G. Thompson was nominated for the student council.

Mr. John Clay, of Chicago, the president of the live stock commission firm of Clay, Robinson and Co., lectured on "Days on the Range" in the Auditorium at the Agricultural College a week ago Saturday. Mr. Clay is a successful business man and his lecture was very interesting and instructive.

The students in the printing course at K. S. A. C. are to be given a series of lectures on matters pertaining to newspaper work. This course will begin soon and the list of speakers includes the following prominent men of Kansas: J. L. Brady, T. A. McNeal, Ewing Herbert, Mack Cretcher, Arthur Capper, Edwin Taylor, W. E. Blackburn, W. A. White, and A. L. Sponsler. Others have been invited to address the class.

Miss Florence A. Stone, an American artist living in Athens, Greece, will lecture on February 7th or 8th in the Auditorium on "Athens, Ancient and Modern." The lecture will be given at the invitation of Professor and Mrs. Roberts, who met the lady in Athens a year ago last summer. Tickets will be 35 cents.

State Dairy Commissioner D. M. Wilson and Deputy Commissioner M. R. Alleman last week held the cream buyers examinations at Abilene, Ellsworth, and Russell. They also gave lectures on the handling of milk and cream under sanitary conditions. About 125 cream buyers took the examinations during the week.

The "Chinch Bug" is the title of a new circular from the Department of Entomology and now issued by the Experiment Station. This includes a map of the State showing approximately the area over which the corn crop of 1909 suffered from chinch-bugs a damage of five per cent or greater. This circular may be had for the asking, and is one of great value.

By placing A. M. TenEyck at the head of the Hays Experiment Station and professor of Farm Management at K. S. A. C., the Board of Regents of the Agricultural College have probably begun on what will eventually result in the division of the Agronomy Department into four separate departments or divisions—the division of Crops, the division of Soils, the division of Farm Management, and the division of Rural Engineering.

On Thursday and Friday of this week Mr. J. W. Searson, professor of journalism at the Nebraska State Normal, Peru, was a visitor on the campus. During the second hour on Friday he talked to students in the printing course. He emphasized to the students the value of laboratory work in journalism, and complimented them on being connected with so well-equipped a printing plant. Had we known the professor was capable of making so good a talk along practical work we would have had our stenographers busy and been able to reproduce his talk.

The first annual banquet of the College Athletic Association, held last Monday night in the Women's Gymnasium, was a big There were over two hundred members and invited guests The large hall was completely ablaze with the Royal Purple and with festive drapings and the menu, served by highschool girls, was first class. Mike Ahearn, "our Mike," was toastmaster and there were a full dozen of toasts. President Waters was called on last. He told of the various aspects of college athletics, of the criticisms of public contests, of the great strides made in reforming this necessary auxiliary work of higher education, and of the surprising progress and promising future of athletics at the Kansas State Agricultural College. The banquet committee was as follows: Lou Aicher, president of Rooters' Club; invitations, Roy Johnson; decorations, A. Endacott and John Z. Martin; refreshment, Rena Faubion, Mattie Kirk, Reva Cree, and Matah Schaeffer; furnishings, Christine Heim, Loren Fowler, U. A. Domsch, Ed. Schorer; printing, Oley Weaver.

The Horticultural Department reports that the short course students enrolled in that department are taking unusual interest in the work offered this year. At present they are given one-hour lectures on grafting, budding, spraying, etc., and then spend two hours in the practice of the things told them. About one hundred elected this course.

The intersociety oratorical contest which is to be held to-night (Saturday) is the tenth annual effort of this kind. Great preparations are being made for it. Each society is planning to outshine the others, and the representatives have been hard at work for weeks. James Bond represents the Webster society; Miss Wilma Orem, the Ionian; Miss Farmer, the Eurodelphian; E. A. Vaughn, the Hamilton; L. G. Folsom, the Athenian; Jesse Keeble, the Franklin; Clyde McKee, the Alpha Beta.

Farmers, stock raisers and business men of Kansas may be interested to know that there is an association, or guild, at the Agricultural College whose purpose is to provide summer work for students along such lines as they intend to follow after their graduation. The association will endeavor to furnish employers with recommendations and it already has upon its list students who desire various kinds of agricultural work, such as work on grain, live stock, fruit or dairy farms, also those who desire creamery work and several who desire to run traction engines. There is also a number of men who would prefer work along the lines of mechanical or electrical engineering and several more who prefer surveying work. Those who desire to employ students during the summer vacation may learn more particulars by addressing the Manhattan Guild, Manhattan, Kan.

A count of assignment stubs, made by Secretary Butterfield January 19, gave a total of 1940 names enrolled since January 4. By classes these are distributed as follows:

	1910.	1909.
Preparatory	53	105
Sub-freshmen	334	391
Freshmen	370	419
Sophomores	368	370
Juniors	280	234
Seniors	149	134
Domestic Science Short Course	87	78
Farmers' Short Course, first year	185	197
Farmers' Short Course, second year	48	
Dairy Short Course	4	14
Specials	54	24
Graduates	8	9
Total	1940	1975
10001		

It will be seen by comparing the columns for 1909 and 1910 that the total attendance is somewhat smaller. This is an unexpected disappointment, though it is gratifying to note that the decrease is in the classes below the sophomore year. All classes above the freshman year show a considerable increase. In 1906-'07 the total enrolment at this time of the winter term was 1673 and in 1907-'08 it was 1859.

Board of Instruction (concluded from second page).

INSTRUCTORS (Concluded).

ASSISTANTS.	
Miss Ing E. Holroyd B.S. (K.S. A.C.) Assistant in Mathematica	3
Miss Kate Tinkey Assistant Librarian Earl N. Rodell, B.S. (K. S. A.C). Assistant in Printing	1
Chas. Yost Assistant in Heat and Power Department	
Forle R Milliam Assistant in Machine Shope	
J. T. Parker	
J. T. Parker. Assistant in Woodwork E. G. Meinzer, M. A. (Olivet) Assistant in German Hugh Oliver Assistant in Heat and Power Department Miss Charlaine Furley, B. A. (Fairmount) Assistant in English	
Miss Charlaine Furley, B. A. (Fairmount)	i
William C. Lane R. S. (K. S. A. C.) Assistant in Electrical Engineering	
Miss Jessie Reynolds. A.B. (U. of K.)	1
Miss Grace H. Woodward (Boston School of D. S.) Assistant in Domestic Science	
Miss Margaret A. Mack (K. S. N.)	
C. A. Arthur Utt, M. S. (Cornell College)	,
Miss Florence Warner, A. B. (University of Illinois)	1
Miss Bertha M. Johnston (Simmons College)	4
Harrison E. Porter, B. S. (K. S. A. C.)	
J. B. Parker, M. A. (Ohio State University)	
Allen G. Philips, B. S. (K.S. A.C.) Miss Gertrude Cannon, Bethany Col. and Oberlin Conservatory Assistant in Poultry Miss Gertrude Cannon, Bethany Col. and Oberlin Conservatory Assistant in Music	
Miss Bertha Bisby Assistant in Mathematics	
Miss Bertha Donaldson (Chicago University) Assistant in Veterinary Science Assistant in Domestic Art	1
Miss Bertha Bisby	-
L. E. Petty, A. B. (Wabash College) Jules C. Cunningham, B.S. (K. S. A. C.) Assistant in Mathematics Jules C. Cunningham, B.S. (K. S. A. C.) Assistant in Horticulture	1
Miss Annie E. Lindsey (Simmons College)	
Miss Amy Allen, B. S. (K. S. A. C.)	
John E. Smith, B. S. (Oregon Ag. Col.) R. C. Wiley, B. S. (Oklahoma A. & M. College) Assistant in Chemistry	,
Porter J. Newman, B. S. (Franklin)	,
C. W. Nash, B.S. (Iowa State)	
R. C. Thompson, B. S. (K. S. A. C.)	
C. E. Griffin, M. S. (U. of Mich). C. W. Nash, B. S. (Iowa State). Chas. Doryland, B. S. (K. S. A. C.) R. C. Thompson, B. S. (K. S. A. C.) R. H. Wilson, D. V. M. (K. S. A. C.) Miss Helen Huse, B. S. (K. S. A. C.) E. F. Kubin, D. V. M. (K. S. A. C.) Assistant in Domestic Science E. F. Kubin, D. V. M. (K. S. A. C.) Assistant in Veterinary Science Assistant in Veterinary Science Assistant in Weterinary Science	
E. F. Kubin, D.V. M. (K. S. A. C.) Assistant in Domestic Science Assistant in Veterinary Science	
B. S. Orr, B. S	
Elmer Johnson, B. S	
A. Miyawaki, M. S. (K. S. A. C.) Assistant in Experimental Dairying	
Geo. C. Wheeler, B.S. (K.S.A.C.)Farm Management, Farmers' Institute Department	,
P. E. Crahtree Farm Management Farmers' Institute Department	
P. E. Crabtree	,
C. H. Hinman, A.B. (U. of Neb.)	,
Miss Ethel Byerly, (Drexel Inst.)	,
T. G. Patterson, B. S. (U. of Minn.)	
Mrs. Jessie Gulick	,
Miss Estella M. Boot, M. A. (Northwestern)	1
J. R. Jenness, B. S. (Denison) Assistant in Physics Harry Evans, B. S. (Ohio State University) Assistant in Entomology	
MISS Ada Baum (Unicago Musical College)	,
Miss Ethel K. M. Ping	:
Dean H. Rose, M. A. (Washington U., St. Louis)	
MISS Anna Monroe, B. S. (K. S. A. C.)	
Miss Madge Kay, B. S. (Univ. Chicago)	,
C. A. Jackson, B. S. (Purdue Univ.). D. O. Stone, C. E. (Cornell Univ.) Assistant in Mathematics D. O. Stone, C. E. (Cornell Univ.) Assistant in Civil Engineering	•
Paul W. Graff, B. S. (Conn. Agri. Col.)	
T. R. H. Wright, B. S. A. (University of Missouri) Assistant in Animal Husbandry L. A. Chase Assistant in History	
Henry Wagner Assistant in Heat and Power	
A. E. White, M. S. (Purque Univ.)	
H. W. Edson, A.M. (Harvard). M. R. Bowerman, B.S. (Mich. Agr. Coll). Assistant in Mathematical English M. R. Bowerman, B.S. (Mich. Agr. Coll). Assistant in Mechanical Engineering	
Accietant in Anahitecture and Drawing	
Wm. A. Lamb	
Floyd HowardFarm Foreman	

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THE INDUSTRIALIST.

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(Board of Instruction concluded on last page.)

THE INDUSTRIALIST

MANHATTAN, KAN., FEBRUARY 12, 1910. VOL. 36.

No. 15

A New System of Grading Student Work.

The Faculty this week adopted a new system of grading student work. The adopted system will be introduced at once, and it is expected that it will be a great improvement on the old system in that it will tend to represent the quality rather than the quantity of the work of the students. The Faculty also formulated an honor rule from which good results are expected.

Following is a complete statement of the rules as they were recommended by the committee on grades and adopted by a unanimous vote of the Faculty.

1. There shall be established a system of grades designated by letters, and having the following significance and order of rank:

E, signifying "Excellent."
G, signifying "Good."
P, signifying "Passed."
C, signifying "Conditioned."
F, signifying "Failure."

2. Any student achieving a grade of "E" for the term, in any subject, and who shall be charged with not to exceed six absences for all causes from the class in such subject during the term, may be excused from the final examination in that subject at the discretion of the instructor. Provided, however, that instructors are to announce such exemption lists in their respective subjects at the last session only of the class preceding the final examination.

3. Conditional examinations shall be reported simply as "P" (Passed) or "F" (Failure), and conditional examinations not taken, or taken and not passed, shall be recorded "F" (Failure).

4. Only grades "C" (Conditioned) and "F" (Failure) shall be reported at the mid-term.

5. Conditional examinations shall be given on the first Monday of each term, instead of on the second Monday as at present. Deficiencies shall be required to be made up within two weeks instead of four, as required at present.

6. There shall be a system of honors established as follows: to not exceeding five (5) per cent of the students of the junior class

having the highest standing for the College year there shall be awarded "junior honors" at Commencement; to not exceeding five (5) per cent of the senior class having the highest standing for the College year there shall be awarded "senior honors" at Commencement; and it is further provided, that in the case of any student's achieving senior honors he shall be entitled to receive one credit toward the master's degree, and in case the same student shall have achieved both junior and senior honors he shall be entitled to receive three credits toward the master's degree.

7. The following system of awarding honor points shall be established, viz., that the grades received by the student shall carry plus and minus "points" in order as follows:

Grade E (Excellent) shall carry + 2 points.

Grade G (Good) shall carry + 1 point. Grade P (Passed) shall carry 0 points.

Grade C (Conditioned) shall carry -1 point.

Grade F (Failure) shall carry — 3 points.

Provided, that when grade "C" (Conditioned) shall be subsequently changed by the conditional examination to grade "P" (Passed) or grade "F" (Failure), that the points shall be changed accordingly.

Provided further, that in the estimation of honor points, the number of points attached to any given grade be multiplied by the number of hours per week required in the subject. In the case of a subject consisting wholly or in part of shop, practice or laboratory work, one-half the number of hours required in such shop, practice or laboratory work shall be taken in computing the multiplying.

EXAMPLES.

Trigonometry calls for 5 hours a week with no laboratory work. If a student received "E," his honor points would be $+3 \times 5 = +15$. If he received "F" his honor points would be $-3 \times 5 = -15$.

Plant Physiology calls for 5 hours per week class work and 4 hours per week laboratory. A student might receive a grade of "E" in the class work and "G" in the laboratory work. This would entitle him to $+2 \times 5 = +10$ points in the class work and $+1 \times 2 = +2$ in the laboratory (laboratory hours being divided by 2 to obtain the multiplying factor).

Farm Motors calls for $2\frac{1}{2}$ hours class work and 4 hours laboratory or practice per week. A grade of "E" in both class and laboratory would entitle the student to $+2 \times 2\frac{1}{2} = +5$ points for the class work and $+3 \times 2 = +6$ points for the laboratory work.

Blacksmithing or Sewing III calls for 4 hours a week of laboratory

work only. Grade "E" in one of these subjects would give a student $+3 \times 2 = +6$ honor points. Grade "F" would give $-3 \times 2 = -6$ points.

The award of honors in the junior and senior classes shall be to those achieving the highest *algebraic sum* of honor points, according to the foregoing schedule, and under the limitations provided in paragraph 7.

The committee considered that the initial letter of the grade conferred would carry much direct personal significance to the student, and they consequently preferred this system, which carries more meaning than the method using either the present system the letters in sequence, or the numbers 1, 2, 3, etc.

An important innovation is the honor system. It is the judgment of the Faculty that the students need the stimulus which such a system will afford. In endowed institutions an honor system in one form or another is very generally found, the honors awarded being in the form of exemptions from tuition, scholarships, and other rewards of similar financial value. Such a system is obviously impossible here. However, it seemed to the Faculty that by establishing a system of junior and senior honors, awarded, in the case of students' achieving the latter, by one credit toward the master's degree, and to the student achieving both junior and senior honors of three credits, we would promote better scholarship and encourage the best of the upper classmen to take up more advanced work after graduating.

It will be noted that this system furnishes an extra stimulus by making the honors cumulative, giving three credits instead of two to the recipient of both senior and junior honors.

By limiting honors to 5 per cent of the classes in question, a large enough number is allowed for to make the honors seem reasonably possible to superior students without their becoming large enough on the other hand to cheapen the award.

Old cows that have done good service for many years raising calves and are then good enough to bring \$75.60 each are certainly profitable for their owners. To-day Henry Mugler, a prosperous young farmer of Bala, Riley county, Kansas, had in a shipment of cattle in which there were six cows of his own raising good enough to sell at that price. All these cows raised calves last season, and Mr. Mugler says the calves are now worth \$20 each. Besides the cows, Mr. Mugler brought along a bull that weighed 2040 pounds, that brought \$102. Mr. Mugler has the reputation of raising extra good cattle.—Drovers' Telegram.

The Meat Boycott.

Pres. H. J. Waters was invited to address the Kansas Day Club at their annual banquet at Topeka January 29 and spoke of the timely topic of the present meat boycott. A brief excerpt as published by the associated press is given below, but we can promise our readers that a full report of the interesting address will be published in a future number of the Industrialist. The President said:

"We must continue to be a meat-producing and a meat-eating people. The price commanded by the live animal must be such as to make the live-stock industry profitable. At the same time the steaks and roasts must retail in the meat stalls at prices that will permit their purchase by the laboring man.

"At the present price of food and farm labor it may be authoritatively stated that the live animal cannot bring less than the prevailing prices and return a reasonable profit. To effect a material saving at this point under present conditions would bring loss to the feeder and serious injury to the live-stock industry.

"The spread between the value of the animal alive and the price of the various parts in the meat stall is materially larger in America than in Europe. Whether this is due to the difference in the economic conditions of the two countries or whether it is in part at least because the packers and meat sellers of America are exacting an undue profit is a very proper subject for a rigid and fair governmental inquiry.

"A resolution not to eat meat by a dozen or a million people will not solve the problem. Such a policy, if general and persisted in, would be fatal to the live-stock industry of our country, upon which rests all permanently prosperous agriculture, and such a change in our dietary standards would bring the American laborer to the low plane of efficiency of the poorly nourished European laborer.

"We cannot maintain our soil fertility without a live-stock industry. Our wheat crop last year robbed Kansas soils of more than \$20,000,000 worth of plant-food. This sum would buy all the lands grown in wheat last year in Shawnee, Riley and Brown counties at a valuation of \$150 per acre.

"To compel our farmers to sell their crops as raw material and sustain a yearly loss on plant-food of more than \$50,000,000 instead of permitting them to feed them to improved live stock and return to their land fully three-fourths of this fertility would bring disaster to our agriculture. In this case the Kansas

farmer would face a constantly diminishing crop yield, whereas, to meet the demands of increasing population, he must double his yield per acre in the next third of a century.

"Compel the laboring man to abstain from eating meat, and, as has already been stated, his standard of efficiency will be immediately lowered. Of all our people the man who labors with his hands and the growing child can least afford to materially reduce their consumption of meat.

"The beefsteak has played a large role in our civilization. The meat-eating nations of the world have dominated in all the ages, and such self-denial as we are now witnessing among our laboring men, if persisted in, could have but one effect, that of lowering the standard of American manhood and womanhood.

"It has been well said that an aristocratic government rests upon the prejudices of the governed; that a monarchial form of government depends for its security upon the chicanery and treachery of those in power, while a representative government, such as ours, finds its security in the intelligence of all the people. I would amend this last statement by saying that our government is secure only when it rests upon the intelligent and well-fed laboring class.

"It has been said that class distinctions are essentially distinctions of food supply. That, for example, you cannot expect families to occupy the same pew at church—the one eating black bread and potatoes, the other having meat, white bread, and coffee.

"Macaulay, in writing to an American friend, said, in substance, 'I think I can look far enough into the future of your country, which is now blessed with an abundance of food for all, to see a time when the multitude who have had but half a breakfast and have no hope for more than half a dinner, will elect a legislature. It does not require extraordinary intelligence to accurately forecast the kind of laws they would enact. Such a condition being general, either your liberty or civilization must perish.'

"In the harvests of our fields, and not the Dreadnoughts of the sea, will our institutions and our civilization be safeguarded."

The College Extension Department will soon issue a pamphlet on silage. More interest is taken in silo construction this year than ever before. A number will be built the coming summer under the direction of dairy expert, C. H. Hinman, the assistant in dairying of the College Extension Department.

Practical Cookery.

A recent number of the Kansas City *Star* contains the following write-up of the practical work in preparation and serving of complete meals as taught in the Domestic Science Department of the Kansas State Agricultural College:

"At present ninety-six young women, classified as domestic science short-course students, are engaged in this work. They are divided into three groups of thirty-two each, and these are divided again into eight groups of four, each group consisting of a cook, assistant cook, dishwasher, and waitress. The cook is in charge of the group, and as each girl holds her position one week and the group works four weeks, each gets a chance to be in charge of the operations. There are eight small kitchens, on two sides of a large central dining-room, in which are eight tables—one for each group.

"At the beginning of each week the new cook is given \$4 with which she is to furnish five meals for four persons, planning her meals under the supervision of her instructor, Miss Grace Woodward. The five meals consist of one three-course dinner, two three-course luncheons, one five-course dinner, and one five-course luncheon, these meals being served at noon on regular College days.

"Members of the Faculty are the lucky ones who get to eat of these feasts, and the fact that some have been on the waiting list for a year before getting a place shows that it is not considered like a place on the government 'poison squad.'

"The aim of the work, of course, is to give the young women a practical knowledge of the preparing of meals in a simple, dainty manner, and also to give them a practical knowledge of the cost and the buying of foodstuffs. Each cook has her own account-book in which she keeps a record of all cash supplies and department supplies used. By department supplies are meant the staples that are kept in the storeroom. This storeroom is in charge of Miss Lindsey, an instructor, with whom the cooks settle every morning for supplies used the day before. Each afternoon the cook goes down town to market, to purchase her necessary supplies according as she will need for her menu the following day.

"The kitchens are 8x8 feet, and each is equipped with china, silver and cooking utensils for serving four persons. There are also a utensil cabinet, china and linen cabinet, porcelain sink, gas range, and a work table.

"It is a self-supporting course. The Faculty members each pay \$1.25 a week. The \$4 coming from the table goes to the cook, while the remaining dollar pays for table laundry, ice, etc. This allows two tablecloths, eight napkins, two center-pieces for the table, and two tray doilies. The table decorations come out of the \$4. The competition between the eight kitchens seems to be to see who can serve the best and daintiest meals within the \$4 limit. The final results show a range of from \$3.15 to \$4 for the cost of the week. The money which is not spent is returned to the department.

"The preparation for this course includes a term's work in the theory of household management, which they are carrying out. The girls are scheduled to work from 10 o'clock to 1:50 o'clock.

They are required to make everything they use.

"It is the custom of the College to take all of its distinguished guests to the domestic science building for dinner, and whenever a speaker is invited to the College mention is made of the D. S. 'feed.' He usually comes without urging. Many newspaper men of note, who are to talk to the printing students in the next few months, will be entertained there. The Regents of the Agricultural College sampled this 'feed' recently."

Obedience, Loyalty, and Discipline.

(Excerpted from a lecture by Lieut. Chas. H. Boice, Professor of Military Science and Tactics.)

The very first paragraph in the Army Regulations reads: "All persons in the military service are required to obey strictly and to execute promptly the lawful orders of their superiors." It will be readily seen why obedience is the first and last duty of every person identified with any military organization. It is the foundation upon which efficiency is built. Without it an organization becomes a mob, while with it a mob ceases to be a mob and a well-organized force, society or community is the result. It is a quality that should be inherent in every member of our cadet organization, or, in fact, demanded of every student in the College.

To obey an order, it is enough to know that the person giving that order is, for the time being, in the execution of his office and your lawful superior. You may not like him, you may not respect him, but you should respect his position and authority and reflect credit upon yourself by an unhesitating obedience. It is not for you to consider whether the order is a good one or not, whether it should perhaps not have been given, or should be executed in some other way, or at some other time. It is sufficient only to

clearly understand what the order requires, and then immediately carry it out to the best of your ability. This, even, does not fulfill all the requirements for a well-organized cadet corps, as we must have the loyal support of every member, carrying out the wishes and desires of your officers in a willing and cheerful manner.

Loyalty means that you are for your organization, its officers, and noncommissioned officers—not against them. No man is a loyal cadet who is a grumbler or a shirker. One such man in a company breeds discontent, and you should guard against doing such things yourself and discourage such action among your comrades.

Now, by means of drill discipline is acquired. It is the teachings in drill that makes obedience become a habit. Loyalty in every person is inherent, while discipline must be acquired; and by strict attention at drill the desired efficiency of our organization will be the natural result, while a careless, sloppy drill breeds disobedience and insubordination.

We find in all walks of life men who are gentlemanly and of good breeding—men who are always respectful and courteous to those about them. Politeness helps to make life worth living and move along smoothly. For example, the custom of tipping the hats to ladies, a friendly nod, shaking hands, or a cheerful "Good morning," are all pretty little courtesies which we extend to our friends every day. In our cadet corps the military courtesies provided for in the text-books are just as necessary, for the same reasons. A paragraph in Army Regulations states that: "Courtesy among military men is indispensable to discipline."

Our method of extending this courtesy is mostly by saluting and manner of addressing superiors in rank. A little careful attention to details on the part of all will help to keep our cadet organization moving along without friction; and notwithstanding that military drill is compulsory, it will become a pleasure rather than a burden in the courses of instruction.

John M. Scott, '03, in charge of animal industry in the Agricultural Experiment Station of Florida, has been promoted to the rank of vice-director. This adds somewhat to his duties but does not otherwise change them. As it is accompanied by an increase in salary, Professor Scott feels well satisfied with his treatment. He is doing a good work there in bringing to the attention of the farmers of Florida the advantages of applying the truths of science in their business.

The King is Marching On.

King Ellsworth, the grand champion steer at the International Live Stock Exposition, the big graduate of the College feed lot, is now having the time of his life among the villagers of New England. When the show was over he was bought by a New Haven packer to furnish juicy beefsteaks for the learned professors and students of Yale University, but before killing His Royal Highness he was paraded before the people of that city and attracted so much admiration and sympathy that the tender-hearted denizens objected to his being slaughtered. The packer realized that in the face of this protest the meat could not be sold and turned him over to another party who is now taking him from town to town in a special car to show New England what western ozone, Kansas alfalfa and an agricultural college education can do. attracting so much attention that his owner has lately written to Professor Kinzer, of this College, for our steer menu card to find out what to feed him to keep up his rotundity and the gloss of his The letter of inquiry intimates that King Ellsworth is attracting more attention in the cities and villages of that region than Barnum's big elephant "Jumbo" did some years ago. Wherever he goes the meat boycott melts like snow down in Florida. Professor Kinzer, who picked him up two years ago, and wrote his biography in the last Industrialist, is prouder than ever of the big disciple and is making preparations to send a few bales of Kansas alfalfa to New Haven to keep up Master Ellsworth's digestion and avoirdupois, and to prevent him from getting homesick for the sunny stock pavilion of the Kansas State Agricultural College.

J. L. Brady, State senator from Douglass county and editor of the Lawrence Journal, addressed the students of the printing course Wednesday, February 2. This was the second of a series of lectures that has been planned by Superintendent Rickman for the benefit of the young printer-journalists of K. S. A. C. Senator Brady talked for an hour on newspaper work in general, and it was a most interesting talk. He scored the sensational newspaper and regretted the lack of harmony among newspapers on account of the disgusting personal feuds between editors. He told of the responsibility of an editor, saying that he was as responsible to the people as the governor or any other public official. Though a resident of Lawrence and a friend of the University, Senator Brady is friendly to K. S. A. C., as was shown by the support he gave to the College in the last legislature.

Local Notes.

Prof. J. E. Kammeyer lectured at Enterprise last Tuesday night.

The Manhattan Grange is preparing to have an old settlers' day March 16.

Last week the city of Manhattan voted bonds amounting to \$30,000 for an additional ward schoolhouse. The vote stood five to one in favor of the bonds.

The Heat and Power Department has used nearly 3000 tons of coal since last September. During the cold spells of last month over 25 tons were shoveled into the boiler grates every day.

The Faculty is contemplating a change in the daily chapel exercises in order to increase the attendance. The exercises will probably be held in the middle of the forenoon during the next year.

Assistant P. E. Crabtree, of the College Extension Department, returned last week from a farmers' institute circuit in northeast Kansas. He reports good attendances and much interest in the work.

The lecturers of the College Extension Department report that wherever they go they find that former students and short-course students of the College are doing splendid work in developing the agricultural resources of the State.

Prof. G. C. Wheeler, on his recent trip in Western Kansas, visited five high-schools and talked to the pupils on current educational topics. He was very favorably impressed by the aspect of these schools and the work they are doing.

Prof. Antonetta Becker, of the Domestic Art Department, spent several days this week in Wichita, Pittsburg and Kansas City, Kan., and Kansas City, Mo., visiting high schools and manual training schools and investigating their work in domestic art.

The Experiment Station has sent manuscript copy to the State printing-office for two bulletins—one on Hog Cholera and Vaccination and one on Selection and Feeding of Laying Hens. The State Printer is also making a reprint of bulletin No. 160, on Cowpeas.

The junior and senior girls who are taking domestic art as their elective and taking up the study of textiles recently had a pleasant and profitable visit to the barns, where they were given a talk on the wool and fleece of the sheep and angora goat by Instructors King and Wright.

Prof. G. C. Wheeler recently spent a day on the county demonstration farm located near Mankato, Jewell county, planning the work of the coming season. Last year this farm produced a large amount of pure-bred seed-corn, which is being sold to the farmers of the county. Pure cane and Kafir seed is also being distributed.

Assistant Philips, of the Poultry Department, inspected the Atchison poultry packing-house, in company with a government inspector.

Since 1902 the College poison laboratory has sent over sixteen thousand quarts of prairie-dog poison to the counties west of Hays Experiment Station.

The State Dairy Commissioner has prepared a bulletin to aid those who desire to take the cream buyers' examination. It is full of interesting and valuable facts connected with the sanitary handling of dairy products. A copy may be obtained by addressing a request to D. M. Wilson, State Dairy Commissioner, Manhattan, Kan.

The Students' Herald of last Wednesday publishes a list of chapel attendance of the Faculty. The only perfect record for the period from January 18 to February 5 (when the roads were so very poor) is that of Professor Brink, who is followed by those of Professors Willard, Dickens, Walters, Van Zile, Becker, Price, and Kammeyer. On February 5 there were 37 professors and instructors present on the platform.

The new system of grading student work, which will be found in another part of the Industrialist, was explained by President Waters to the assembled "College family" after the chapel exercises in the Auditorium last Thursday morning and was well received. It is certainly an improvement over the old per cent system. The committee who worked it up consisted of Professors H. F. Roberts, R. R. Price, W. A. McKeever, J. O. Hamilton, and B. F. Eyer.

Miss Florence Stone's lecture on "Athens, Ancient and Modern," given in the old chapel last Monday night under the auspices of a Faculty committee, was a success in every respect. Her stereopticon pictures of the acropolis, the old temple of Thesens, the rebuilt stadium and many of the public places of modern Athens were especially fine. A net profit of \$7 was realized, which was turned over to the Department of Architecture and Drawing. Much credit for the success of the evening is due to Professor and Mrs. Roberts, who had met Miss Stone in Greece two years ago and induced her to come to Manhattan with her lecture.

Prof. W. S. Gearhart, State highway engineer, attended the new Santa Fé trail good-roads meeting at Hutchinson. He reports about 400 delegates present from along the proposed route. Several of these had come from Colorado. The professor gave a talk on the subject of State road laws and the involved engineering features. He also attended a similar meeting a week ago at Leavenworth, called for the purpose of completing the rock road from that place to Kansas City for a distance of about eight miles. Another meeting was held on February 8 at Dighton for the purpose of building a rock road from Great Bend to the west State line.

The tenth oratorical contest of the seven literary societies of the College was held in the Auditorium the evening of January 29. All of the selected contestants did well. James Bond represented the Webster society; Miss Wilma Orem, the Ionian; Miss Farmer, the Eurodelphian; E. A. Vaughn, the Hamilton; L. G. Folsom, the Athenian; Jesse Keeble, the Franklin; Clyde McKee, the Alpha Beta. The judges gave Mr. Folsom the first, Mr. Bond the second and Mr. Vaughn the third place. The music was furnished by members of the different societies and was first class. There were many former students and friends of the College present and, of course, there was the usual enthusiasm and applause offered by the students at each occasion. It was a grand entertainment.

The contract for the erection of the new Gymnasium was let last Monday afternoon to Walter Stingley, of Manhattan, for \$84,199, and that for the insertion of the heating plant to the Salina Plumbing Company for something over \$13,000. The main contract has not yet been signed up, a number of changes agreed to not having been fully specified by the State Architect. No positive date for the completion of the work was specified, but President Waters thinks that it will be completed before the opening of the fall term of 1911. The competition for the contract was lively, especially that for the plumbing. The electric wiring will probably be done by the Department of Electrical Engineering. Mr. Stingiey intends to start the work of excavating as soon as his bond is approved and the contract signed up.

Prof. G. C. Wheeler returned last week from a series of farmers' institutes in the extreme western part of the State. He reports splendid interest in the meetings. The farmers of this section are just beginning to awaken to the possibilities of the proper conservation of soil moisture, commonly called the Campbeil system. A most encouraging feature of these meetings have been the reports of a few practical farmers in every county who have been securing surprising results through an extended period of years. Mr. T. J. Davis accompanied Professor Wheeler on this trip and related his experiences in growing wheat in Gray county by the Campbell system, where he has secured for the past three years an average yield of 15 bushels per acre—a most remarkable result when the number of absolute failures during the three dry years of the past is considered. Mr. Davis has made an average net profit of \$6.59 per acre for this period.

Alumni and Former Students.

Clara Pancake '03, is assisting Mrs. Calvin, '86, in the short-course work in home economics at Purdue University, Lafayette, Ind.

L. C. Criner, '92, of McPherson, who visited in Manhattan this week, is slated for the democratic nomination for secretary of state. Criner's old friends wish him success.—Republic.

F. C. Sears, '92, professor of pomology, Massachusetts Agricultural College, appeared on the program at a meeting of the New Jersey State Board of Agriculture in a paper on "Western Methods in Eastern Orcharding."

Minnie L. Copeland, '98, is now practicing her profession in the Presbyterian Hospital, New York City, and is enjoying her work on the night force. She is inquiring concerning the presence of other alumni in New York City and would be glad to meet them. Her address is 165 East 63rd street.

F. W. Haselwood, '01, E. W. Doane, '01, and Ernest Greenough, '06, comprise a K. S. A. C. party who have recently purchased ranches a few miles from Merced, Cal. This soil is irrigated by the block system from the Merced river and is especially adapted to the growth of figs, alfalfa, and corn.—Republic.

A. B. Carnahan, '05, has been elected as teacher of mathematics and science in the high school of District No. 18, Gilbert, Minn., and has been at work there since the first of the year. He says: "Gilbert is a new town in a mining district and has few substantial buildings as yet, but has a good water system and a splendidly appointed high school."

J. M. Westgate, '97, is the author of Bulletin No. 169 of the Bureau of Plant Industry, on "Variegated Alfalfa." Mr. Westgate is agronomist in charge of alfalfa and clover investigations in the department and his energetic prosecution of studies and inquiries touching Grimm alfalfa and other variegated varieties has enabled him to produce a monograph which is indispensable to any student of alfalfa.

Changes of address: Clara Pancake, '03, 225 University street, West Lafayette, Ind.; F. W. Ames, '94, Saratoga Avenue, Buchview, Pittsburg, Pa.; Mrs. Eusebia (Knipe) Curtis, '90, 845 Garfield, Kansas City, Kan., Harry E. Moore, 824 Union street, Seattle, Wash.; E. M. Paddleford, '89, Frankfort, Kan.; L. W. Lawson, '07, Allis Chalmers University Club, West Allis, Wis.; Mrs. Hattie (Paddleford) McFadden, '96, Austin, Colo.; C. J. Axtell, '04, 105 Wendell Avenue, Schenectady, N. Y.; Mrs. M. A. (White) Abbott, '67, 437 Oakley Boulevard, Chicago, Ill.

H. M. Bainer [1900], who for nearly four years has been an instructor in farm mechanics and dairying at the Colorado Agricultural College, on Saturday was appointed general manager of the college farms by the executive committee of the State Board of Agricultural. Under this new appointment he will have complete control of all the farm property of the college and will dictate how it shall be run, the planting of crops, etc. In fact, he will outline the entire policy of the college farms. Mr. O'Brien will still remain as superintendent. Mr. Bainer as professor of farm mechanics has secured all the present latest type machinery on the college farms and in his capacity as such has keen insight into the practical work of the farm, and a better choice could hardly have been made.—From a Colorado paper.

Board of Instruction (concluded from second page).

INSTRUCTORS (Concluded).

Miss Kate TinkeyAssistant Librarian	
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No. 16

The San Jose Scale.

(Read before the Science Club of the Kansas State Agricultural College, February 10, 1910, by George A. Dean, Assistant Professor of Entomology.)

During the last year the writer devoted the larger part of his time to the San José scale work in this State, and while engaged in this work field notes were carefully kept on the habits of this insect. The following is a brief discussion of some of the field observations.

FOOD PLANTS.

San José scale may attack many different kinds of trees, shrubs, vines, and ornamentals, but it is primarily a pest of fruit trees, peach trees being most liable to serious infestation. ess and Bartlett pears are often seriously infested, while the Keiffer is apparently immune. The blue damson plum is more susceptible than the other varieties of plums, some of which are almost free from attack. Nearly all apples may be infested, but there is a marked difference in the susceptibility of different varieties to attack, the Ben Davis and yellow transparent being more Small crab-apple liable than many of the other common ones. trees are liable to severe injury. The June-berry and currant bushes are often badly injured or killed, especially the black cur-The sweet cherry may be infested, but the sour cherry is practically immune. Osage orange hedges should be considered a menace growing about an orchard, for they are sometimes seriously infested and may always afford an excellent breeding place Grape-vines are ordinarily not attacked but may be for the scale. infested when grown adjacent to seriously infested trees. A few varieties of roses, the spiræa and the flowering quince are the or-The mountain ash is liable to namentals commonly infested. heavy infestation and is a menace grown adjacent to fruit trees or among ornamentals. Common shade and forest trees and many ornamentals are so seldom attacked that they may be called accidental host plants. To this class belong elm, maple, honey-locust, cottonwood, willow, lilac, and snowball.

There are many varieties of plants which would never be attacked, except when grown under or near by infested trees, when

a few scales may appear upon them. For instance, we have found it on smartweeds, horse rag weeds, rhubarb, and the blades of corn.

A LIST OF TREES, SHRUBS AND VINES AND THEIR SUSCEPTIBILITY TO THE ATTACKS OF THE SAN JOSÉ SCALE.

Trees and Shrubs that Are Badly Infested.

Peach. Pear. Currant.

Plum (wild goose excepted).

Mountain ash. Osage orange.

Apple.

Crab apple.

Rose (some species).

Quince.

Japonica (Japanese quince).

Sweet cherry. Spiræa.

June-berry (Amelanchier).

Trees and Shrubs That May Be Badly Infested But Are Very Seldom So Infested.

Elm (young trees). Maple (young trees). Hawthorn (Crataegus).

Willow.

Cottonwood.

Poplar. Lilac.

Flowering almond.

Grape.

Snowball (Viburnum).

Trees and Shrubs That Are Occasionally Infested But Not Injured.

Ash (white, green, and black). Bittersweet.

Blackberry. Box-elder. Catalpa. Elderberry. Elm.

Gooseberry. Hackberry.

Honey-locust.

Black locust. Mulberry. Maple. Raspberry.

Rose (most species).

Sumac.

Virginia creeper. Black walnut.

Honeysuckle (Lonicera fragantissima).

Fruit Trees That Are Practically Immune, But Upon Which a Few Scales Have Been Found on a Very Few Occasions.

Kieffer pear. Sour cherry. Wild goose plum.

Plants Accidentally Infested. (These plants were growing under badly infested trees.)

Horse rag weed. Smartweeds.

Blades of corn. Rhubarb.

Trees and Shrubs Not Infested. (These have never been found infested in the United States.)

Ailanthus (tree of Heaven). Arbor-vitæ.

Bald cypress (Taxodium).

Beech.

Boston Ivy (Ampelopsis). Butternut (white walnut).

Sycamore. Cedar.

Hazel nut (Corylus).

Fir (Abies). Hickory.

Honeysuckle (most species).

Ironwood (Ostrya). Hydrangea (all species).

Redbud (Cercis).

Juniper.

Kentucky Coffee tree (Gymnocladus).

Maiden hair tree (Ginkgo).

Syringa (Mock orange) (Philadelphus sp.)

Oak (all species).

Papaw.

Pine (all species).

Prickly ash (Xanthoxylum).

Privet (California privet) (Ligustrum).

Spruce (Picea).

Trumpet creeper (Tecoma radicans)

Trumpet vine (Bignonia).

Tulip tree.

METHOD OF INJURING THE TREE ATTACKED.

On a slightly infested tree, the scale is inconspicuous and is easily passed unnoticed, but its remarkably rapid rate of reproduction enables it to encrust the trunk and limbs and spread to the foliage and fruit, so that, in the case of young peach and some varieties of pear, it is only a question of two or three years, if treatment is not given, before the condition of the plant becomes hopeless and death follows. On the young limbs of pear, apple and peach there is usually a reddened area about the scale, and just beneath this blotch there is a purplish red discoloration of the tissue which seems to be due largely to poisoning by the insect. Fruit borne by infested trees usually shows bright red blotches surrounding the scales. These are more noticeable about the blossom and stem ends.

Trees severely attacked show the surface of the bark encrusted or thickly covered with the scales and in general appearance the bark looks grayish, is slightly roughened and scurfy, and does not show the reddish spots or discoloration of the slight infestation. The bark also presents a knotty and irregular appearance partly due to the depressions formed by the sapping of the juices and to the pits about the attachment of the insects.

As usually found on peach, the scale is massed more densely on the older wood and gradually diminishes toward the tips of the branches. Often on peach trees of from eight to ten years of age the scales that completety encrust the trunk and lower branches are nearly all dead, while those out on the outer branches are alive and rapidly reproducing. In such cases peach trees, though so seriously injured that nearly all branches are dead or dying, usually have enough life left in the main trunk to start a new growth in the center, so that if the dead branches are cut off and the remaining part is thoroughly sprayed a new top may be grown.

Trees differ greatly in their power of withstanding the attack of San José scale. Young peach trees will ordinarily survive only two or three years after becoming infested unless proper remedial measures are taken, and it is not unusual for very young peach and pear trees to be killed in a single year. Three or four years are usually required for older pear and apple trees to become seriously infested, and then they generally maintain a feeble, sickly existence for two or three years more. Any kind of old fruit trees that are not very thrifty, though growing near heavily infested trees, may go free for many years and never be seriously attacked.

DISTRIBUTION.

The spreading of San José scale from one tree to another or from one orchard to another may be accomplished in many ways. The minute crawling young may be blown by the wind to other trees or even into nearby orchards. They may be carried by crawling upon the feet and bodies of birds, upon other insects, such as beetles, katydids, cicadas, ants, bees, etc., upon the bodies of squirrels, of poultry roosting in fruit trees, and even upon the clothing of persons, the bodies of horses used in the care of the orchard, or stock pasturing about the trees. But the shipping of infested nursery cuttings and stock from one point to another is the chief means of its distribution. It is by this method that it has spread from one country to another, from state to state, and usually from one part of a state to another.

Freezing and Heaving of the Soil.

A. M. Ten Eyck, Professor of Agronomy.

Reports from several localities in the State indicate that winter wheat, other winter grain, alfalfa and other crops are being injured by the freezing and heaving of the soil. This heaving results from the alternate freezing and thawing of very wet ground. Certain types of soil which contain considerable clay and hold water are more subject to heaving. Often the whole furrow slice is lifted, doubtless due to the fact that the water tends to accumulate at the bottom of the mellow soil and freezing lifts the soil above; also the cleavage line may be nearer the surface. The lifting of the soil by freezing breaks the roots of the wheat and other plants which may be growing on such land. When the soil thaws it tends to settle, leaving the upper parts of the plant roots exposed above the ground, and the continued alternate freezing and thawing gradually draws the plant roots out of the soil.

As long as the ground is very wet and the alternate freezing and thawing continues, nothing can be done to stop the heaving. As soon as the frost goes out and the ground becomes dry enough some benefit may result from rolling—by settling the soil and pressing the soil more firmly about the loosened roots. A heavy, smooth roller is preferred for this work. It is not advisable to harrow wheat which has been injured by heaving, since the harrowing is likely to pull out many of the plants and still further loosen the roots of those which remain.

It is almost impossible to prevent injury by heaving in certain heavy, waxy types of soil. Well-drained land is not thus affected,

and even in ground which is subject to heaving it may be largely prevented by good surface drainage and very careful preparation of the seed-bed. The seed-bed which is prepared late and left in a loose, mellow condition, especially if some trash or manure has been plowed under, is much more apt to heave than the finely pulverized, well-settled seed-bed. If the plowing precedes the planting by a long interval, so that the soil becomes settled and a good union is established between the furrow slice and the subsoil, then the heaving is much less apt to occur.

It has been shown by the experiments at this Station that the careful preparation of the seed-bed by early plowing and sufficient surface cultivation so as to pulverize and settle the soil results in largely increased yields. It is doubtful whether the injury by heaving to wheat or other grain which is now occurring in some fields in certain localities in the State can be prevented or remedied to any extent. Timely rolling may help a little as suggested above. But this damage to the crops may be a lesson to the farmers so that they may in future plantings take greater precaution in putting the soil in the best possible seed-bed condition before planting the crop.

A Call to the Kansas Spirit.

Kansas should not hesitate to follow the advice of its State engineer of highways, W. S. Gearhart, who urges that the tin bridges recently destroyed by the ice gorges be replaced with permanent stone or concrete structures.

The interesting information that in many of the counties more than one-half the road fund is invested in the maintenance and construction of bridges and culverts is the answer to the question as to why Kansas has bad roads. The waste involved in bridges and culverts that are at best but temporary affairs explains the depletion of the road tax levy without any perceptible improvement in the highways themselves. The life of the average wooden bridge, as pointed out by Mr. Gearhart, is four years. Along the streams where extraordinary freshets are likely to occur at any time, the life of these temporary structures is limited to the probability of the regular annual overflow.

When men of sound business judgment invest capital in private enterprizes of that character they build against the possibility of its destruction by storm or flood. They invest their money in improvements that will endure, so that it will not be necessary for them to reckon that investment as liable to be lost at any moment.

Public funds should be invested by the same rule. When bridges and culverts are built they should be constructed upon a foundation and of material that will stand for fifty years instead of four years. The difference in the cost of a tin or a timber bridge and a permanent bridge is so small as to leave no excuse for the temporary structure save that of stupid neglect of the public interest. In Kansas, where public spirit and enterprise have characterized the development of the State, there should be no tolerance of the makeshift policy of wasting public funds in four-year bridges.

Mr. Gearhart has started a movement in Kansas that should unite in its support every enterprising citizen and community in the State.—Kansas City Star.

Hog Cholera and Vaccination.

The Veterinary Department of the College Experiment Station has just issued Farm Bulletin No. 163, on "Hog Cholera and Vaccination." The pamphlet was prepared by Dr. F. S. Schoenleber. It contains a popular account of the hog-cholera disease, its symptoms, ravages, treatment, and prevention. The many illustrations show the methods of inoculation as practiced at the new cholera station at the College. The pamphlet contains also directions to Kansas hog growers for securing serum. They are as follows:

"So long as the amount produced is limited it is only reasonable that the territory in which the disease exists should be given the first opportunity to use the serum. If the disease is in the herd or the herd has been exposed to the disease, application may be made to the State Live-stock Sanitary Commissioner, at Topeka. He will investigate and take care of the matter in the same way that other contagious diseases are handled. If the Sanitary Commissioner thinks it necessary to vaccinate he will have it done, but the owner must buy the serum.

"If the hogs are all healthy and have not been exposed, application is made direct to the Veterinary Department of the Agricultural College, at Manhattan. The name of the veterinarian who is to do the vaccinating should be given. The cost of the serum is one and one-half cents per cubic centimeter for the serum and also for the virulent blood, or about thirty-three cents for a pig

weighing from 30 to 100 pounds. The smallest dose given is 10 cc. to suckling pigs, and the largest, to heavy hogs, is 60 cc.

"It should always be stated whether the herd is perfectly healthy or whether there are some sick; also, the number and weights of the hogs to be vaccinated. If there is no graduate veterinarian near, the Veterinary Department has a record of all such men, with their qualifications, and will gladly supply this information.

"In the beginning of an outbreak of cholera, if properly done vaccinating frequently saves at least part of the herd, but it does very little, if any, good after a herd is thoroughly infected. The serum will not cure the cholera, but is only a preventative. It is therefore necessary to act promptly."

Now a "Corn Special."

The Kansas State Agricultural College has been carrying on a great campaign for better corn crops for years, and now is to make a "train campaign" over the Rock Island, starting out from Topeka on Tuesday morning, March 1, and ending at Belleville Saturday evening at 5:00 o'clock. The train on the first day goes south to Wellington, where an evening meeting will be held, and then it will return in the night to Herington. The second day the train will run from Herington to Pratt, where another evening meeting will be held. At 6:00 o'clock Thursday morning the train will run out to Bucklin for the first meeting at 8:00 o'clock, and then meetings will be held at the towns between Bucklin and Pratt, and the train will then run straight to Herington and up the Salina branch, with meetings at Woodbine, Enterprise, Abilene, New Cambria, and the lecture at Salina will be about 4:40 Thurs-The train will run back to Herington for the night, day evening. and on Friday the first meeting will be at Broughton at 8:00 o'clock, Clay Center about nine, and on to Mankato by 5:00 o'clock. The train will then run to Kensington for a meeting at 7:30, then on to Phillipsburg for the night, leaving there on Saturday morning in time for the first meeting to be at Norton at 7:30 a. m., mountain time. The work will end at Belleville on Saturday evening at 5:00 o'clock. The lectures will be on "Corn, Seed and Seed-Bed," and the speakers will be Prof. A. M. TenEyck, Mr. P. E. Crabtree, and Supt. J. H. Miller. The fourth speaker will be selected in a few days. As usual, the lectures will be given in the cars at the depots, except for the evening meetings.

Movable Schools.

Movable schools in cooking and sewing, dairying, corn and stock judging and gardening are now being offered to the people of Kansas through the Extension Department of the Kansas Agricultural College.

The work of these schools is to be carried on under the direction of a member of the Extension Department, who will be assisted by one or two graduate students of the College who show special fitness in the line of work being offered by the school. This takes college instruction into the communities where enough interest is shown to warrant the establishment of one of these schools.

For three months, beginning March 1, these schools will be available. Applications are now being received from various institutes over the State. The local institute makes and pays for all local arrangements, while the College pays the traveling expenses of the instructors.

The school of cooking and sewing will be conducted by Miss Frances L. Brown of the Extension Department. The period of instruction is one week. From 9 a. m. to 12 m. each day the time will be spent in lessons in cookery. The first course will be divided so that the first day will be spent in the cooking of vegetables. The second day will be taken up with meats, the third day left-overs, etc., each day providing a different phase of the culinary art. The sewing class will spend each day from 1 to 3 p. m. in studying and practicing mending, cutting, pattern-making, etc. From 3 to 4 p. m. the doors will be open to the ladies of the vicinity as well as class members for conferences.

The size of the class is limited to twenty-five, and not less than fifteen girls above the age of 14. Each member is charged an enrolment fee of one dollar, which goes to the local institute committee to meet local expenses. In this school the committee must provide the room, range, cooking utensils, fuel, etc., and also the sewing machines. The only charge made by the College is for the entertainment of the instructors for the week.

Another school is offered in dairy work. This will be conducted by Assistant C. H. Hinman, of the Extension Department. It will hold sessions of three days each from 9 a.m. to 4 p.m. The course will thoroughly demonstrate the handling of cream separators, hand churns, butter making, installation of a testing record, and the Babcock test. Drills will also be given in judging dairy cows. Lectures will be given on plans for silos, dairy stables and rooms, and the feeding of dairy cows. This course of instruction

is open to members of both sexes above fifteen years of age. The local committee must supply the machinery, milk, and cream. A fee of one dollar is charged for enrolment to meet the local expense.

The schools in corn and stock judging will be conducted by Assistants P. E. Crabtree and G. C. Wheeler, of the Extension Department. The period of instruction is three days, from 9 a.m. to 4 p.m. This school admits none under the age of fifteen years, and the usual fee of one dollar is charged by the local committee. The stock judging class will divide its time equally in judging horses, cattle, and hogs.

There will be a course in horticulture under the direction of Assistant C. V. Holsinger, of the Extension Department, organized in a similar manner.

By means of these schools the College hopes to give an insight into the field of scientific learning, and to not only educate, but to give the young people of the State a thirst for a broader knowledge of the best in agriculture and home economics. This is a practical plan of carrying the Agricultural College out to the people—the next step after the farmers' institutes.

Kansas State Forestry Work.

The State forestry work authorized by the Legislature of 1909 has during the past year consisted chiefly of preliminary observations concerning forest conditions in the several sections of the State. The forestry problems of Kansas are naturally divided into two groups—the maintenance and extension of the present forest area of Kansas, and the creation of artificial forests by planting. Reports on these two phases are now to be published, and Kansas has her forest policy determined.

The present forest areas of the State are of great importance. For the most part these areas are along the streams and upon hill-sides and in ravines where a cover of trees is necessary for soil protection. Many of these natural forests may be made much more valuable by judicious thinning, and many may be considerably enlarged by protecting for a few years the young growth adjacent to the wood lot.

A part of the State forest policy will be to prepare plans for the care of these wood lots in order that they may add to the wealth and welfare of the State. Recommendations for the creation of artificial forests will be made only after the forester is acquainted with the conditions of soil, exposure, adaptability of the location for tree growing, and the ability of the owner to execute such

plans. Recommendations as to soil preparation and selection of species will be made in the light of the history and experience of plantations which have been carefully studied as to the causes of their success and failure. The three requisites for success are soil preparation, proper selection of species, and cultivation and care.

A summary of the discussion contained in the report upon artificial forest emphasizes these points: Soil must be well prepared for tree growth. Unless land has been in crops two or more seasons, it is not wise to attempt plantings that are to depend upon the soil moisture for support.

After a few years of good farming, most soils contain sufficient moisture to support trees. Cultivation must be frequent and thorough. If the soil is exposed and liable to blow, a light mulch should be applied in the fall and worked into the soil the following spring. There should be a sufficient area planted to trees so that they will soon protect each other. In exposed locations, low-headed trees are the only forms that can long survive. One-year-old seedlings are best suited for transplanting. For very trying localities, seed planted where the tree is to stand has a better chance for long life, but requires great care during the first season.

Species adapted for high, dry soils are: Honey-locust, osage orange, white elm, hackberry, Russian olive, red cedar, Austrian pine, and Scotch pine. For sandy soils and creek bottoms, cottonwood and Russian mulberry may be added. For good soil, moist and rich, Catalpa Speciosa is permanently the most valuable. The forestry stations will be continued as demonstration plantations, and nurseries for experimental and coöperative purposes continued.

Where possible, the State forester will visit plantations and inspect soil and conditions and prepare planting plans for cooperative work. Every effort will be made to aid and assist all planters, no matter how small the operations, but planting plans cannot be made unless for an area of two or more acres, except in the case of school districts which wish to improve their premises by making forest and ornamental plantings. It is hoped that many districts will secure even larger areas for this work.

Inquiries concerning planting plans or other forestry questions should be addressed to State Forester, Manhattan, Kan.

Two weeks ago we gave the total number of enrolled students for the winter term at 1940. Since then 15 more have entered College, making the total 1955.

Local Notes.

A strong effort will be made this year to publish the annual catalogue of the College before the close of the spring term.

Miss Anne M. Boyd, our former librarian, has recently been elected librarian of the James Millikan University, Decatur, Ill.

Professor Dean, of the Entomology Department, spent Friday and Saturday in fruit institute work in Wyandotte and Doniphan counties.

State Dairy Commissioner Wilson and Assistant Alleman were in the northern part of the State last week giving the official examination to cream buyers.

The Entomology Department of the Kansas State Agricultural College is carrying on some important experiments to determine the best and fatal temperatures in the life economy of the Green Bug and the Hessian Fly.

Miss Frances L. Brown, of the Extension Department, left on Friday for a two-weeks' institute trip through the middle northwest for the purpose of meeting with the institutes and organizing Girls' Domestic Science Clubs in the high schools. She will be accompanied by Seth Babcock, of Minneapolis, who will have charge of the men's work.

According to a count that has just been completed, the force at the Manhattan post-office handles a daily average of 19,000 pieces of mail. This includes the incoming and outgoing mail of all classes. Of this number 10,000 pieces are letters, or first-class mail. The total for January is over half a million pieces—557,670—and its weight 41,550 pounds.

Director E. H. Webster attended the annual meeting of the Kansas Grain Dealers' Association held in Kansas City February 10. He gave an address on the purpose and work of the new division of milling industry organized at this College by a late order of the Board of Regents. He also attended a meeting of the Northern Kansas Millers' Club held at Kansas City on the same date.

Miss Frances L. Brown returned February 5 from an institute circuit through the central west part of the State, where she had given addresses at over twenty farmers' institutes. She had also visited a dozen high schools, organizing domestic science clubs among the girls. She reports much enthusiasm, especially in the latter work. Mr. H. T. Nielson, formerly of the Government Agricultural Department, accompanied the College delegation for the first two weeks and Mr. C. C. Cunningham, of the Hays Branch Station, assisted for the remaining week. Miss Brown also attended the Southwestern Kansas Teachers' Association at Garden City, at their request, and spoke on "The Necessity of Home Training for the Girls."

Our basket-ball team has recently added two more pearls to its crown of glory. Last Saturday it played the Washburn people in the College Y. M. C. A. Hall and demoralized them badly. At the end of the first inning the score stood 60 to 2 in our favor, and at the end of the whole game it was 100 to 5. On Monday the team went to Lincoln, Neb., and vanquished the great Nebraska University to the tune of 30 to 17. Good for the boys!

Director Ed. H. Webster went last Thursday night to Hays Experiment Station, Ogallah Forest Experiment Station, Dodge City Forestry Station and Garden City Experiment Station with the newly appointed State forester, C. A. Scott, and Prof. Albert Dickens to look over the condition of the forestry work at these places and to introduce the State forester to his new work. At Garden City the delegation will take part in the farmers' institute, which will be in session February 23 and 24. Pres. H. J. Waters will also be present at the institute and give an address. From here Director Webster will go to Kansas City, Mo., to attend the annual meeting of the National Alfalfa Millers' Association, where he will give an address on the application of the Kansas feeding-stuffs law to the alfalfa milling business.

President Waters has been much in demand on the platform since he became a Kansan, and it seems that there is no immediate abatement of requests to address associations and conventions. Last Saturday he addressed the Riley county teachers up at Riley on "Industrial Education in the Common School." On February 21 he will give a lecture on "How Animals Grow" before the Agricultural Society of this College. The lecture will relate his own research work done at Columbia, Mo., while he was dean of agriculture at that institution. He is also billed for addresses at the Agricultural College alumni reunions at Topeka on March 4, and at Kansas City on March 5. On March 8 he will speak before the State Editorial Association at Wichita, and later he will deliver the commencement address at the Kansas City Veterinary College, where he will speak on "Veterinary Medicine as a Profession." These appointments, together with a number of farmers' institutes for which he is already slated, will undoubtedly fill his spare (?) hours for the next two or three weeks.

Among the books published recently by Scott, Forseman & Co. is one that should prove of more than usual interest to public-school teachers. "The Teaching of Geography," by William J. Sutherland, M. A., president of the State Normal School of Wisconsin, presents to the reader many new ideas of modern geography, making it the key that opens into all other sciences. His suggestions of methods for correlating facts in botany, geology, zoölogy, meteorology, physics, chemistry, and agriculture, in fixing geographical facts, will prove helpful to teachers and of interest to others. While the development of the subject is pedagogical, its wording is in terms so clear that reading the book is a pleasure.—J. O. Hamilton.

Alumni and Former Students.

Roland McKee, '00, scientific assistant in the United States Department of Agriculture, visited here a few days, and also at Blue Rapids and Marysville, on his way from Washington to his work in California. Mr. McKee is engaged principally in investigations concerning the growth of forage crops in connection with orcharding.

H. V. Harlan, '04, writes of the great satisfaction that he has had in his winter's work in Washington, D. C., under Doctor Mann. He is very enthusiastic over his plant-breeding plans which he is about to test in Minnesota and California. He expects to visit Manhattan next summer for further study of the corn breeding work in progress here.

Changes of address: Earl Wheeler, '05, "The Benedick," 1810 I street, N. W., Washington, D. C.; Grant Dewey, '90, 750 East 47th street, Chicago, Ill.; Mrs. Emma (Smith) Burt, '03, Wabaunsee, Kan.; A. C. Smith, '97, Room 1217 Alaska Building, Seattle, Wash.; L. B. Pickett, '05, Box 494, Horton, Kan.; V. L. Cory, '04, Amarillo, Texas; H. T. Nielsen, '03, Vesper, Kan.

Robert H. Wilson, '09, and Mary A. Haney, formerly a student and more recently a clerk in the Experiment Station, were married at Russell, Kan., Monday evening, February 14. Doctor Wilson is now an assistant in the Bacteriology Department, and the young couple will doubtless make their home in our midst, where they have many friends who wish them much happiness.

In the house where Mr. and Mrs. R. H. Hawkins began life together near Marysville their daughter Stella, on Monday February 14, became the bride of Ralph F. Gallup, whom she has known since first school days. They were married at noon in the presence of relatives and a few intimate friends, and after congratulations a bounteous three-course dinner was served. Mr. Gallup is a graduate of the University of Kansas and Mrs. Gallup is a member of the class of 1909 of this institution. After March 15 they will be at home in Marysville, Kan., where Mr. Gallup is city engineer and county surveyor of Marshall county. Mr. and Mrs. Gallup went to Kansas City Tuesday morning and will visit there, in Lawrence and in Blue Rapids before returning home.



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